7018 - V

THE LANCET.

No. 4243. Vol. CLXVII. LONDON, SATURDAY, DECEMBER 24, 1904. [Pp. 120+24.

CONTENTS.

AN ADDRESS on the Restoration of Hearing after Removal of the Drum and Ossicles by a Modification of the Radical Mastoid Operation for Suppurative Ear Disease. Founded on the Experience of 400 Operations. Delivered before the Otological Society of the United Kingdom on Dec. 5th, 1904, by CHARLES J. HEATH, F.R.C.S. Eng., Surgeon to the Throat Hospital, Golden-square, London. (*Illustrated*) 1767

ORIGINAL ARTICLES.

Congenital Intestinal Atresia. By H. S. CLOGG, M.S.Lond., F.R.C.S.Eng., Assistant Surgeon to Charing Cross Hospital; Surgeon to the Evelina Hospital for Children 1770

The Intravenous Injection of Antitoxin in Diphtheria. By JOHN BIERNACKI, M.D. Glasg., Medical Superintendent, Plaistow Hospital; and J. C. MUIR, M.D. Cantab., Medical Superintendent, St. George's Infirmary; late Assistant Medical Officer, Plaistow Hospital 1774

The Parasites of Small-pox, Vaccinia and Varicella. By W. B. DE KORTÉ, M.B.Lond. (From the Bacteriological Laboratory, King's College, London) 1776

Some Observations on Convulsions in Children and their Relation to Epilepsy. By R. O. MOON, M.D. Oxon., M.R.C.P.Lond. 1778

Hæmoconia. By ANDREW LOVE, M.D.Glasg., Senior Resident Assistant Physician, Belvidere Fever Hospital, Glasgow 1781

An Unusual Case of Diaphragmatic Hernia. By H. B. G. NEWHAM, M.R.C.S. Eng., L.R.C.P.Lond., D.P.H. Cantab. 1782

A Case of Congenital Hypertrophic Stenosis of the Pylorus in which Pyloroplasty was Unsuccessfully Performed. By J. RUTHERFORD MORISON, F.R.C.S.Eng. and Edin., Surgeon to the Royal Infirmary, Newcastle-on-Tyne 1782

Note on a Case of Acute Cerebral Abscess. By A. L. WHITEHEAD, M.B., B.S. Lond., Ophthalmic and Aural Surgeon to the General Infirmary, Leeds 1783

MEDICAL SOCIETIES.

PATHOLOGICAL SOCIETY: Experiments on the Grafting of the Thymus Gland in Animals.—The Production of Leucocytosis by Colchicine.—Alterations in the Systemic Circulation which tend to produce Engorgement of the Lung Capillaries 1783

LIVERPOOL MEDICAL INSTITUTION: Chancre of the Nostril.—Actinomycosis.—Constriction of the Ureter.—Perineal Prostatectomy.—Sarcoma of the Femur 1784

ROYAL ACADEMY OF MEDICINE IN IRELAND: Radical Treatment of Hernia.—Intestinal Obstruction 1785

EPIDEMIOLOGICAL SOCIETY: Ticks and Tick-transmitted Diseases 1785

LEEDS & WEST RIDING MEDICO-CHIRURGICAL SOCIETY: Bullet Wound of the Brain.—Nasal Disease as a Cause of Headache.—Exhibition of Cases and Specimens 1786

FORFARSHIRE MEDICAL ASSOCIATION: The Utility and Futility of Sanatoriums.—Exhibition of Cases and Specimens 1787

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY: Observations on the Climate and Health Resorts of Scotland 1787

MIDLAND MEDICAL SOCIETY: Exhibition of Cases and Specimens 1787

BRADFORD MEDICO-CHIRURGICAL SOCIETY: Exhibition of Cases 1788

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY: Exhibition of Cases 1788

ROYAL MEDICAL SOCIETY, EDINBURGH: The Aspects and Treatment of Criminology.—Appendicitis 1788

REVIEWS AND NOTICES OF BOOKS.

Text-book of Human Physiology, including Histology and Microscopical Anatomy, with Special Reference to the Practice of Medicine. By Dr. L. Landois. Tenth Edition, edited by A. P. Brubaker and Translated by A. A. Eshner 1788

Surgical Anatomy of the Head and Neck. By John B. Deaver, M.D. 1789

Bacteriology and the Public Health. By George Newman, M.D., F.R.S. Edin., D.P.H. Cantab. Third Edition 1789

Life and Letters of Edward Byles Cowell, Professor of Sanskrit, Cambridge, 1867–1903. By George Cowell, F.R.C.S.Eng. 1790

The Simple Medical Year Book or Private Medical Ledger 1790

Who's Who, 1905, and Who's Who Year Book, 1905 1790

The Cycle of Life, according to Modern Science. By C. W. Saleeby, M.D. 1791

A Treatise on Materia Medica and Therapeutics. By R. Ghosh, L.M.S. University of Calcutta 1791

ANALYTICAL RECORDS FROM THE LANCET LABORATORY.

(1) Elixir Glycerophosphates Comp.; (2) Elixir Glycerophosphates Soda and Lime; and (3) Syrup Tolu and Heroine Comp. 1791

(1) Extract of Malt (Ferrated); and (2) Extract of Malt with Iron, Quinine, and Strychnine 1791

Commendador Port Wine 1791

New Sparklet Syphon 1792

(1) "Tabloid" Reduced Iron Compound; (2) "Tabloid" Reduced Iron and Rhubarb Compound 1792

Allenburys Milk and Cereal Diet 1792

Antitan Tea 1792

Olma Malt Gin 1792

Formamint 1792

Patent Non-metallic Syphon ... 1792

NEW INVENTIONS.

Invalid's Night-dress.—(*Illustrated*) 1793

A Tablet Crusher.—(*Illustrated*) 1793

LEADING ARTICLES.

ÆQUANIMITAS 1794

THE MANAGEMENT OF THE ASYLUMS OF THE LONDON COUNTY COUNCIL 1795

THE USE, ABUSE, AND EXCLUSION OF THE COLON 1797

ANNOTATIONS.

Christmas Fare 1797

The Sterilisation of Degenerates 1798

Metropolitan Street Ambulance Association 1798

Dr. Doyen and the Serotherapy of Cancer 1798

The Ice-supply of London 1799

Intermittent Claudication 1799

Pathology at Oxford 1800

Italy and the Anglo-Saxon 1800

The Parasites of Small-pox, Vaccinia, and Varicella 1800

Centenary of the Royal Medical and Chirurgical Society .. 1801

The Report of the Inspector under the Inebriates Acts for the year 1903 1801

Simultaneous Application of Electricity and Massage 1801

Christmas Books for Children.. 1801

Angio-neurotic Œdema: Œdema of the Mucous Membrane of the Stomach 1802

Mr. George Jackson and the General Medical Council 1802

VITAL STATISTICS:

Health of English Towns ... 1806

Health of Scotch Towns 1806

Health of Dublin 1806

LOOKING BACK.

(From THE LANCET, Saturday, Dec. 23, 1826) 1793

SPECIAL ARTICLES.

King Edward's Hospital Fund for London 1803

Metropolitan Hospital Sunday Fund 1805

The Services 1807

Cholera and Plague in the Near East 1812

Sanitary Legislation in the United States 1813

Notes from India 1814

Manchester 1815

Wales and Western Counties Notes 1815

Scotland 1816

Ireland 1816

Paris 1816

Berlin 1818

Australia 1818

CORRESPONDENCE.

Leprosy in China (Mr. Jonathan Hutchinson) 1808

The Recent Discussion on Chloroform Anæsthesia (Dr. Frederic W. Hewitt, Dr. J. Fredk. W. Silk) 1808

The Medicine of Assam (Mr. D. J. Drake) 1809

"Functional" Diseases and the Pathology of Chorea (Dr. J. M. Fortescue-Brickdale) ... 1809

The Evolution of Man's Diet (Dr. Harry Campbell) 1810

Treatment of Acute Pneumonia by Continuous Counter-irritation without Vesication (Mr. Arnold M. St. John Wright) 1810

The "Police Call" (Dr. T. R. Henderson) 1811

The Pre-cancerous Stage of Cancer (Mr. Skene Keith) ... 1811

Mosquitoes on Board Ship (Mr. F. G. Aflalo) 1811

Rex v. John Dale Tucker: The Power of the General Medical Council (Messrs. Sampson and Co.) 1811

Overcrowded Trains 1822

Physical Culture (Mr. Robert Beswick) 1822

The Building and Management of a Small Lunatic Asylum... 1822

OBITUARY.

Dan Astley Gresswell, M.D. Oxon., M.D. Melb., D.P.H. Cantab. 1819

MEDICAL NEWS.

London Hospital Medical Club 1769

The Father of Russian Surgery 1792

Pass-lists of the Universities of Oxford and Cambridge, and Trinity College, Dublin 1820

Donations and Bequests 1820

The Bona fides of Advertisement Challenged in the Law Court 1820

Books, &c., received 1821

Appointments 1821

Vacancies 1821

Births, Marriages, and Deaths 1821

Notes, Short Comments, and Answers to Correspondents .. 1822

Medical Diary 1823

FOR INDEX TO ADVERTISEMENTS SEE PAGES 2 & 4.

INDEX.

MEDICAL AND OTHER BOOKS AND PUBLICATIONS.

COVER.

PAGE

ARNOLD :—
Hutchison .. Diseases of Children.... 1

BAILLIERE, TINDALL & COX :—
Ball ..... Diseases of the Nose, &c. 1
Campbell, H. Respiratory Exercise in Treatment of Disease.. 1
Eccles ..... Harris..... 1
" ..... Descended Testis 1
Lindsay .... Diseases of the Lungs and Heart 1
Shaw-Mackenzie. Inoperable Cancer 1
Vincent .... Nutrition of the Infant 1

CHURCHILL, J. & A. :—
Bullin ..... Malignant Disease..... 1
Squire's Pocket Companion to the British Pharmacopœia 1

CORNISH BROS. (BIRMINGHAM) :—
Leedham-Green .... Sterilisation of the Hands 1

GLAISHER :—
Cowen ..... X-Rays 1
Herschell .. Diagnosis of Cancer 1
Wright..... Treatment of Hæmorrhoids, &c. 1

LEWIS :—
Bastian..... Aphasia, &c. 1
" ..... The Brain as an Organ of Mind 1
" ..... Paralyses 1
" ..... Forms of Hysterical &c. Paralysis 1
Campbell, H. Flushing, &c. 1
" Headache 1

PAGE

LEWIS—(Continued).
Lewis's Circulating Library 1
Martindale & Westcott .. Extra Pharmacopœia .. 1

PENTLAND Y. J. :—
Muir & Ritchie.... Manual of Bacteriology 1
Text-book of Anatomy..... 1

SAUNDERS & CO. :—
Saunders' Medical Hand-Atlases 1

SMITH, ELDER & CO. :—
Lawson .... Diseases and Injuries of the Eye..... 1

MEDICAL LIBRARIES, &c. :—
Clinical Journal 1
Davidson—Sight-Testing for the G.P. 1

BAILLIERE, TINDALL & COX :—
Hay ..... Constipation 2
Caldwell .... Prevention of Disease in Armies 2
Delafield & Prudden .. Pathological Anatomy 3
De Santi .... Malignant Disease of the Larynx..... 3
French ..... Med. Lab. Methods &c. 3
Hamilton .. Railway and other Accidents 3
Herbert .... Cataract Extraction.... 3
Kraepelin .. Clinical Psychiatry 3
Lamb ..... Examination of the Throat, Nose, and Ear 3
Latham .... Sanatorium Treatment of Tuberculosis 3
" .... Pulmonary Consumption 3
Macnaughton-Jones..... Diseases of Women 3
Mummery .. The After-Treatment of Operations 3

BAILLIERE—(Continued).
Pelitzer .... Diseases of the Ear 3
Robson & Moynihan.. Diseases of the Stomach 3
Robson..... Diseases of the Gall-Bladder 3
Starr ..... Nervous Diseases 3
Turner, D. .. Medical Electricity, &c. 3

CASSELL & CO. :—
Marsh ..... Diseases of the Joints .. 9
Morris, H. .. Surgery of the Kidney and Ureter 9
" .. Injuries and Diseases of Genital, &c., Organs .. 9
Morris, M. .. Diseases of the Skin 9

CHURCHILL, J. & A. :—
Gripps ..... Diseases of the Rectum 6
" ..... Cancer of the Rectum.. 6
Marsh ..... Clinical Lectures and Essays 9
Squire's Pocket Companion to the British Pharmacopœia 7

CORNISH BROS. (BIRMINGHAM) :—
Sawyer, Sir J. Practical Medicine 9
" Insomnia 9

KEGAN PAUL & CO. :—
Taylor ..... Diseases of the Eye 8

LEWIS :—
Lewers..... Diseases of Women 8
" ..... Cancer of the Uterus .. 8
Martindale & Westcott .. Extra Pharmacopœia .. 8

PENTLAND, Y. J. :—
Edinburgh Medical Journal 9

RENSHAW :—
Wood ..... Application of Traces 8

SAUNDERS & CO. :—
Bruhl & Politzer .. Otology 5
Dürck ..... General Pathologic Histology 5
" ..... Special Pathologic Histology 5
Grünwald .. Mouth, Pharynx & Nose 5
Haab ..... Ophthalmoscopy 5
Heiferich..... Fractures and Dislocations 5
Jakob ..... Internal Medicine & Diagnosis..... 5
" ..... Nervous System..... 5
Lehmann & Neumann.. Bacteriology 5
Mracek..... Syphilis & Venereal Diseases 5
Nothnagel's Practice..... 4
Schäffer .... Gynecology 5
" .... Obstetric Diagnosis & Treatment 5
" .... Operative Gynecology.. 5
" .... Labour & Operative Obstetrics 5
Sobotta .... Human Histology 5
Sultan ..... Abdominal Hernias 5
Zuckerkandl. Operative Surgery..... 5

SMITH, ELDER & CO. :—
Keetley .... Orthopædic Surgery.... 6
" .... Gastric Ulcers 6
" .... Complicated Fractures 6
Leftwich .... Index of Symptoms 6
Tirard ..... Albuminuria, &c. 6

WRIGHT & CO. (BRISTOL) :—
Love ..... Diseases of the Ear 7
Walker..... Dermatology 7

MEDICAL LIBRARIES, &c. :—
Bickle—Stammering 8
Gladstone—
Publishers' Remainders 9

OFFICIAL AND GENERAL ANNOUNCEMENTS.

APPOINTMENTS VACANT :—
Blackburn and East Lancashire Infirmary 79
Borough of Scarborough..... 79
Chelsea Hospital for Women 78
Clayton Hospital, Wakefield..... 74
Dewsbury and District General Infirmary 74
Dorset County Hospital, Dorchester.. 78
East London and Children's Hospital, Shadwell..... 15
Farringdon General Dispensary 78
French Hospital and Dispensary..... 74
General Infirmary, Gloucester..... 79
Godfrey, Kirkby-in-Ashfield..... 78
Hospital for Consumption & Diseases of the Chest, Brompton 78
Hospital for the Insane, Lincoln... .. 78
Infectious Diseases Hospital, Bucknall 78
King Edward VII. Sanatorium 78
London County Asylum, Banstead.... 78
London School of Tropical Medicine.. 78
Macewan, Rox 79
Manchester Hospital for Consumption, &c. 78
Medical Superintendent, Liverpool .. 74
National Hospital for the Paralyse d.. 74
North-Eastern Hospital for Children, Hackney-road 15
North Staffordshire Infirmary and Eye Hospital, Hartshill 79
Queen's Hospital, Birmingham 79
Royal Eye Hospital, Southwark 79
Royal Infirmary, Sheffield 15
Royal South Hants and Southampton Hospital 74
South Devon and East Cornwall Hospital 75
St. Bartholomew's Hospital 75
St. Pancras Infirmary 75
University College Hospital 74
University of Edinburgh..... 75
University of Leeds 75
University of Otago, N.Z. 75
West Ham Hospital 79

ASSISTANCIES, MEDICAL :—
Paley, Worcester 80
For, &c. notices 80
J. B., Fitzhenry-park 80
Medical, Catford 20
No. 941, L.O., Strand..... 80
No. 942, L.O., Strand..... 80
No. 947, L.O., Strand..... 80
No. 949, L.O., Strand..... 81
No. 950, L.O., Strand..... 80
No. 951, L.O., Strand..... 80
No. 952, L.O., Strand..... 80
No. 953, L.O., Strand..... 81
No. 956, L.O., Strand..... 81
No. 957, L.O., Strand..... 81
Farr, Postmaster 81
Stocker, Strand 80
Turner, Adolphi 80

ASYLUMS, HOMES, &c. :—
Abervorwith, the Harris of Wales .. 69
Alsadore Sanatorium, Co. Wicklow .. 10
Ashwood House, Kingswinford 67
Barnwood House Hospital 68

ASYLUMS—(Continued).
Bath Zander Institute 67
Bethel Hos. for Mental Diseases 73
Buntingford House Retreat, Herts .. 10
Camberwell House, Peckham-road.. 67
Clarence Lodge, Clapham-park 10
Coppice, The, Nottingham 64
Cotswold Sanatorium 10
Crookshury Sanatorium, Surrey..... 73
Dalrymple House, Rickmansworth .. 67
Dartmoor Sanatorium 70
Denton Johns' Sanatorium, Yorkstone 73
East Anglian Sanatorium, Mayland .. 72
Electro-Sulphur and Light Syndicate, Portman-square 73
Fairford Retreat, Gloucestershire 67
Ferguson, Barnet 73
Ferguson, Robin Hood's Bay 73
Finsen Light Cure, &c., Norwich 74
Flower House, Catford..... 64
Grove House, Church Stretton..... 66
Grove, The, Catton, Norwich 68
Hailey Open Air Sanatorium, Ipsden.. 71
Haydock Lodge, Newton-le-Willows.. 70
High Shot House, Twickenham 67
Hitch, Mrs., Hollinwood 66
House School for Children, Chislehurst 74
Inverurith Lodge Retreat, Collingburgh 66
Lady Superintendent, Brighton 73
Lady Superintendent, Streatham 73
Lawson, Nordrach-on-Dee, Banchory 71
London Open - Air Sanatorium, Wokingham 73
Lufthar Sanatorium, Frotbury 71
Maternity House, New King's-road .. 14
Melbourne House, Leicester 66
Middleton Hall, Co. Durham 67
Moat House, Tamworth 66
Moorcote Open - Air Sanatorium, Nuerwley 71
Nordrach in Wales 71
Nordrach-upon-Mersey Sanatorium .. 71
Norland Nurseries, Pembridge-square 73
Northlands Retreat, Wandsworth 67
Northwoods House, Winterbourne..... 69
No. 911, L.O., Strand..... 73
Ochil Hills Sanatorium 72
Oswestria, Boscombe..... 74
Overdale, Whitefield..... 73
Pine-ys-Llnas, Merionethshire 72
Plympton House, South Devon 69
Rostrevor Open-air Sanatorium 71
Shaftesbury House, Formby..... 69
Sidlaw Sanatorium, Auchterhouse..... 71
Sleter, Blackheath 73
Springfield House Private Asylum, Bedford 67
St. Andrew's Hospital, Northampton 69
St. Luke's Hospital, E.C. 66
Stocker, Craven-street 73
Stone House, Canterbury 73
Stourfield Park Sanatorium, Bournemouth 72
Streeton House, Church Stretton 73
Thorneycroft, Clacton-on-Sea 73
Thundersliffe Grange, nr. Rotherham 73
Tower House, Leicester 68
Vale of Clwyd Sanatorium..... 67
Verset-les-Bains 67
Warneford Asylum, Oxford 68
West Malling-place, Kent 69
Weste.-super-Mare Nursing Home .. 9.

ASYLUMS—(Continued).
Whitmead Hill Sanatorium, Farnham 72
Winchester House, Kingsmead-hill 69
Wonford House, Exeter 69
Wye House, Buxton 69
Wyke House, Isleworth 69
Yarrow Convalescent Home, Broadstairs..... 69

BATHS :—
Pad Ems 74
Smedley's, Matlock 74

FINANCIAL, &c. :—
Birkbeck Bank..... 65
English and Scottish Law Life Office.. 65
Equitable Reversionary Interest Soc. 65

HOMES, &c., WANTED :—
H., Plymouth 74

HOTELS :—
Barton Court Hotel, New Milton 67
Montpere Hotel and Chalmt, Belmont 67
Monnt Felerin—
Grand Hotel Mont Felerin 67
Port Orotava—English Grand Hotel.. 67

HOUSE & ESTATE AGENTS :—
Bedford & Co., Wigmore-street 79
Estate Office, Ivorna Court 79
Foreman, Hove 79
Manager, Buckingham Gate 79
Neville, Chorley 79
No. 943, L.O., Strand..... 80

LIFE & FIRE ASSURANCES :—
General Life Assurance Co. 65
National Provident Institution 65
Prudential 65

MEDICAL ACCOUNTANTS, &c. :—
Bradsley 79
Turner 80

MEDICAL AGENTS :—
Hall & Hardwicke 78
Lee & Martin..... 79
London Medical Agency 78
Manchester Medical Agency 78
Manchester Medical, &c., Association 79
Medical Agency 78
Meeden, Herbert 78
Needes, J. C. 78
Ortrigt..... 79
Peacock & Hadley 79
Reynolds & Branson 79
Scholastic (Medical, &c., Agency 77
Southern Medical Agency 79
Turner 78
Wilson & Son 14

MEDICAL SCHOOLS (LONDON) :—
Cooke's School of Anatomy 64
West London Post-Graduate College.. 62

NURSING INSTITUTES :—
Clapton Nursing Home 61
General Nursing Association 6
Hos. for Sick Children, Gt. Ormond-st. 4
Leeds Trained Nurses' Institution 61
London Nurses' Association 61
Male and Female Nurses' Assoc. 65
Male Nurses' Association 64
Male Nurses' Co-operative 65
Middlesex Hos. Trained Nurses' Inst. 61
Midmay Nursing Institute 64
Nurses' Co-operation, Portland-place 65
Queen Charlotte's Lying-in Hos..... 62
St. John's House 61
Temperance Male and Female Nurses' Co-operation 65
Temperance Male Nurses' Co-operation 65

OFFICIAL NOTICES :—
Apothecaries' Hall of Ireland 61
Army Medical Service 65
Central London Ophthalmic Hospital 64
Central London Throat, &c., Hos. 62
Grocers' Co. Scholarships 63
Hospital for Diseases of the Throat, Golden-square 61
Naval Medical Examination 65
Royal London Ophthalmic Hospital.. 63
Sanitary Assurance Association 63
Surgical Aid Society 64
University College, London 62

PARTNERSHIPS & PRACTICES :—
F. H. W., Chabnant 79
Masaring Director, Strand 80
No. 911, L.O., Strand..... 10
No. 940, L.O., Strand..... 79
No. 942, L.O., Strand..... 80
No. 944, L.O., Strand..... 10
No. 945, L.O., Strand..... 80
No. 946, L.O., Strand..... 80
No. 954, L.O., Strand..... 80
No. 955, L.O., Strand..... 80
No. 958, L.O., Strand..... 80
No. 959, L.O., Strand..... 79
Peacock & Hadley, Strand 79
Stocker, Craven-street 80

RAILWAY & STEAMSHIP CO.'S :—
New Zealand Shipping Co..... 63
Royal Mail Steam Packet Co.—Tours 63

SCHOOLS, PREPARATORY, &c. :—
Manchester Physical Training College 64
School Ship Conway 64

TUTORS & LECTURERS :—
Duchesne 64
Fellowships 63
Gooch 64, 65
Keris 64
No. 476, L.O. 65
No. 901, L.O. 14
No. 962, L.O. 64
Van Praagh 64
Weymouth 63

(For Index to Trade and Miscellaneous Advertisements see page 4.)

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INDEX—(CONTINUED).

TRADE AND MISCELLANEOUS ADVERTISEMENTS.

COVER.

PAGE

CHEMISTS & DRUGGISTS:—
Brin's Oxygen Co.—Brin's Oxygen..... iii

FOODS:—
Cadbury's Cocoa iv
Fry's Pure Concentrated Cocoa iii
" Cocoa and Milk iii
Mahon Co.—Mahon ii
Valentine's Meat Juice Co.—
Meat Juice iii

WINES, BEER, SPIRITS, &c.:—
Burgoyne's Tintara Burgundy ii

BOTTLE MERCHANTS:—
Isaac 61
Islington Glass Bottle Company 61
Kilner Brothers, Ltd. 13

CARRIAGES, HORSES, &c.:—
Armstrong—
Coachmen's and Grooms' Liveries 11
Cortland Wagon Co.—
Cortland American Carriages 11
De Dion-Bouton, Ltd.—
Motor Carriages 10
Duryea Co.—
Duryea Power Carriages..... 10
Marston—Brougham Hansom 11
Mayhorn & Son—
Ripon Buggy..... 11
St. John Ambulance—
Invalid Carriage 11
W. George-street, Portman-square—
Secondhand Carriages 11

CHEMISTS & DRUGGISTS:—
Allen & Hanburys—
Medical Iual 34
Byno-Hypophosphites 39
Allenburys Throat Pastilles 29
" Cod Liver Oil 37
Andrus & Andrus—
Homaboloids..... 18
Anglo-American Pharmaceutical Co.—
Huxley's Syrup Glycero Phosphates 40
Antikamnia Chemical Co.—
Antikamnia Tablets 40
Armour & Co.—
Supraronalin..... 36
Bartley's Liquors 67
Bayer Co.—
Pharmaceutical Preparations 49
Benger's Food, Ltd.—
Liquor Pancreaticus 28
Liquor Peptonæ 32

PAGE

CHEMISTS—(Continued).
British Antitoxine Manufacturing Co.—
Antitoxine 55
British Druggists—
Hypogan 54
Hytogan 54
Bullock & Co.—
Pepsina Pural 54
Acid Glycerine of Pepsine 54
Burgoyne, Burbidge & Co.—
Salif 54
Collargol 54
Asoine 54
Antiseptic Creôd 54
Burroughs, Wellcome & Co.—
Christmas & New Year's Gifts 34, 35
Kepler Solutions 30
Wellcome Serumol 30
Cæsars Sagrada 31
Chrissy & Co.—
Glyco-Thymoline..... 38
Glyco-Heroin 39
Denver Chemical Co.—
Antiphlogistine 41
Dinneford's Fluid Magnesia 58
Fairchild Bros. & Foster—
Pepsencia 20
Howlett & Son—
Mist. Pepsinæ Co. c. Bismutho.... 47
Hudson—Ramsethol Jujubes 60
Kirby & Co.—
Purgen 48
Kreochyle Co.—
Saxif Cum-Glycerida 57
Lamont, Corlies & Co.—
Hydrozone..... 35
Maltine Manufacturing Co.—
Maltine with Cæsars Sagrada 38
Mauthner & Co.—Dry Yeast 60
Newbery & Sons—
Fulvis Jacobi Ver 33
Parke, Davis & Co.—
Christmas and New Year's Gifts.. 15
Price's Patent Candle Co., Ltd.—
Toilet Soaps 48
Raimes & Co.—
Silagen's Nutrient Suppositories .. 55
Sahamon & Co.—Purest Chloroform .. 55
Sanalogen Co.—Sanalogen..... 43
Savory & Moore—
Pancreatic Emulsion 19
Scott & Bowne—
Scott's Emulsion..... 31
Serravallo's Tonic 16
Tamar Indien Grillon 60
Vinolia Co., Ltd.—
Vinolia Soap..... 17
Zimmermann, A. & M.—
Nafialan 40

FILTERS:—
Defries & Sons—Pasteur Filter..... 14

FOODS:—
Allen & Hanburys—
Allenburys Milk & Cereal Diet.... 35
Aylesbury Dairy Co.—
Humanised Milk..... 37
Benger's Food, Ltd.—
Peptonised Beef Jelly 28
Peptonised Chicken Jelly 29
Blatchley's Diabetic Preparations 57
Boutbros & Co.—Gluten Bread, &c. .. 61
Brand & Co.—Meat Juice..... 57
Burroughs, Wellcome & Co.—
Perfected Wyeth Beef Juice 39
Callard & Co.—
New Diabetic Foods 60

PAGE

FOODS—(Continued).
Carnrick & Co.—
Liquid Peptonoids 39
Clarke & Sons—Nursery Milk 61
Fairchild Bros. & Foster—
Panopepton 31
Foods, Ltd.—
Mosselyn Food 59
Frame Food Co.—Frame Food 45
Liebig's Extract of Meat Co., Ltd.—
Oxo 59
Nelson, Dale & Co.—
Hipi Hutton Essence..... 46
Nestlé—Milo Food 46
Rowntree's Elect Cocoa 60
Van Abbott & Sons—Gluten Flour.... 57
Virol, Ltd.—Virol 42
Wallace & Sons—
Humanised Milk..... 44
Asses' Milk..... 44
Whyte & Sons—China Tea 60

FURNITURE, &c.:—
Army and Navy House Furnishing Co. 9
Carter—Invalid Furniture 14
Winycile Trading Co., Ltd.—
Examiner Adjustable Table 62

MED. & SURG. APPLIANCES:—
Allen & Hanburys—
Aseptic Table 22
Bailey & Son—
Clinical Thermometers..... 13
Downing Radiant Heat Co.—
Downing Radiant Heat and Light Treatment 62
Mullin & Lawley—Osteology, &c. .. 62
Pope & Plante—
Elastic Stockings..... 61
Abdominal Supporting Belts..... 61
Robinson & Son—Gamgee Tissue 62
Wood—
Eureka Crêpe Velpeau Bandages.. 9

MINERAL WATERS:—
Contrexeville Pavilion 58
Davis—Turney Water 56
Hogg & Sons—Piperazine Water 54
Ingram & Royle—
Vichy 53
Carlsbad Salt..... 53
Oppel & Co.—
Friedrichshall Mineral Water 56
Robinson's Concentrated Waters..... 54
Vulgi & Co.—
Wiesbaden Gout-Water 57

PRINTERS & ENGRAVERS:—
Cooke & Co.—
Brass Name Plates and Lamps 11
Culleton—
Brass Door Plates 61
Heraldry, &c. 61

SANITARY APPLIANCES, &c.:—
British Lysoform Co., Ltd.—
Lysoform 30
Chinosol Hygienic Co.—
Chinosol Powder and Tablets 54
Cosby's Fluid 62
Defries & Sons—
Ozolex Disinfector 14
Joyce' Sanitary Compounds Co.—
Cyllin 47

SAN. APPLIANCES—(Continued).
Newton, Chambers & Co.—Izal 20
Sanitas Co.—
Sanitas Disinfectants..... 11

STOVES:—
Roberts—
Terra Cotta Portable Stoves 12

TAILORS, BOOTMAKERS, &c.:—
Emerson Shoe Store—
Emerson Boot 62
Fisher & Sons—
Chesterfield Overcoat 61
Hamilton & Co.—
Elastic Dress Suit 61
Doctor's Fur-lined Overcoat..... 61
Russian Fur Co.—
Gentlemen's Fur-lined Overcoats 61

TOBACCO, CIGARS, &c.:—
Wartmann & Co.—Cigarine 63

TYPEWRITING, &c.:—
Cambridge Typewriting Agency, Adelphi 9
Machine Trading Co.—
Typewriters 9

VACCINE LYMPH:—
Amoc, for Pure Vaccine Lymph 12
Blanc—Glycerinated Calf Vaccine 12
Jenner—Institute for Calf Lymph 12
Rebman—
Glycerinated Pure Calf Lymph .. 12
Renner's Calf Lymph Establishment.. 12
Wyleys, Ltd.—Calf Lymph 12

WINES, BEER, SPIRITS, &c.:—
Back & Co.—
"G B" Diabetic Whisky 53
Bishop & Sons—
Bolteau's Brut Cognac..... 59
Brut-Royal..... 59
Brown & Pank—
Fine Vintage Brandy 60
Buchanan—
Black and White Scotch Whisky.. 55
Dewar's Whisky 55
Gautier's Liqueur Brandy 58
Hennessy's Three Star Brandy 52
Mackenzie & Co.—
Pure Highland Malt Whisky..... 53
MacMinn Richardson & Co.—
French Clarets..... 63
Martell's Three Star Brandy 54
Sykes & Co.—Sparkling Saumur 59
The Orion South Australian Wines .. 62
Waltham Bros.—
Brown Stout..... 57
Nursing Stout 57
Wright & Son—
Old Gran's Special Toddy 52

MISCELLANEOUS:—
Manchester Portable Building Co.—
Revolving Shelters 61
Steinhoff & Neubauer—
Patent for sale 9

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An Address
ON
THE RESTORATION OF HEARING AFTER REMOVAL OF THE DRUM AND OSSICLES BY A MODIFICATION OF THE RADICAL MASTOID OPERATION FOR SUPPURATIVE EAR DISEASE.

FOUNDED ON THE EXPERIENCE OF 400 OPERATIONS.

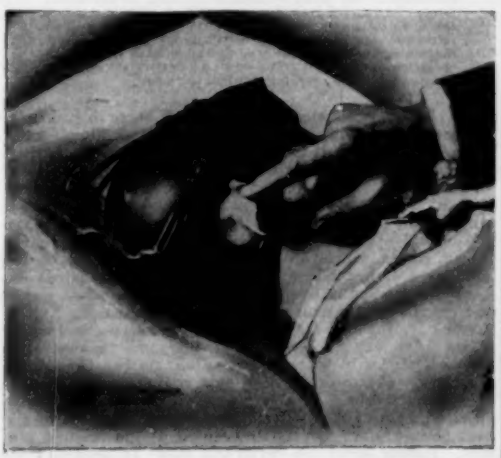
Delivered before the Otological Society of the United Kingdom on Dec. 5th, 1904.

BY CHARLES J. HEATH, F.R.C.S. ENG.,
SURGEON TO THE THROAT HOSPITAL, GOLDEN-SQUARE, LONDON.

MR. PRESIDENT AND GENTLEMEN,—It is not without some diffidence that I am bringing to your notice the operative methods I adopt with a view of restoring hearing and arresting discharge in chronic suppurative ear disease, but having frequently been asked by members of this society to bring the matter forward I hope you will forgive me should I fail to be of interest. I am told my methods differ so greatly from those of other surgeons that you may not be unwilling to examine them and I trust I may provide something worthy of discussion.

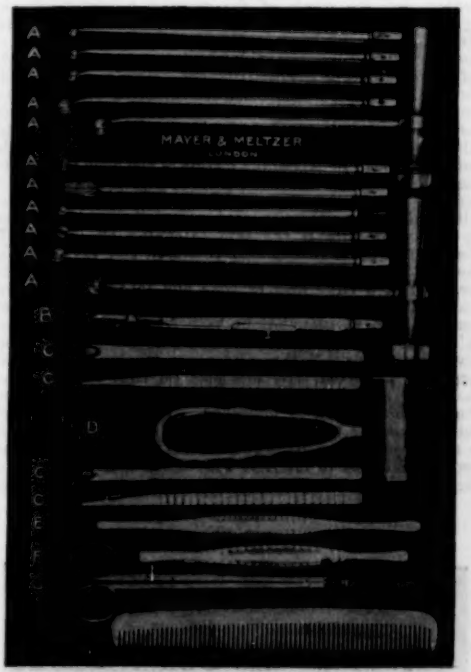
You may remember that I showed a large number of cases with restored and excellent hearing at the meeting of the society just a year ago. Since then I have performed the operation just 100 times and with increasing confidence that the system I adopt, or some slight modification of it, will ultimately be adopted as a means of restoring hearing to large numbers of persons afflicted with suppurative ear disease. At that meeting a year ago there was a prolonged discussion on the cases I showed but I had no opportunity then of explaining my method of operation. It would be superfluous in this society to give the reasons which induce the surgeon to decide on operation, so I will at once proceed to enumerate the advantages of my method of operation, to explain the details of it, and to show the instruments I have designed for performing it, which have all been made for me by Messrs. Mayer and Meltzer of Great Portland-street, W. The advantages are: (1) little shock to the patient, as the operation can be performed in half an hour; (2) there is no disfiguring scar; (3) there is no shaving of the head; (4) the after-treatment is easy for both patient and surgeon; (5) the surgeon familiar with this operation can usually tell with the aid of the instruments I employ not only the direction in which the antrum lies but the depth of the cavity and can often define its dimensions before removing any bone; and last, and most important of all, a considerable amount of hearing is restored and preserved in a vast majority of the patients.

FIG. 1.



The rubber sheet cap in use, clipped over the forehead with long curved forceps; the ear turned forwards exposing the whole area of operation.

FIG. 2.



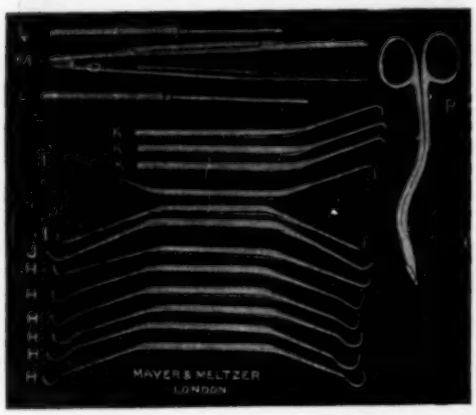
A, 11 hand burrs, 4 straight round-ended, five bent ditto, one flat-ended, and one conical, all fitting the same handles. B, One guarded hand gouge, fitting the same handles. C, Four gouges for use with the mallet (four sizes). D, Soft copper mallet, body and handle cast in one piece. E, One meatus separator. F, One periosteum raiser. G, Two pairs of probe pointed scissors (one pair with thin blades for cutting the hair very close, the other pair for fashioning the flap from the cartilaginous meatus).

Over the preliminaries I will be brief. The day before the operation the head and hair should be washed and dried, the ear syringed with some warm antiseptic lotion but not plugged, whereupon the ear and neighbouring skin are packed in a wet boric compress and covered with waterproof. This dressing is removed on the operating table, when the few short hairs that grow near the top of the front of the ear are cut away with scissors. The square rubber sheet cap shown in use in Fig. 1 has an aperture near each of the four sides and through the one most suitable in size for the patient the ear is passed. The sheet is then wrapped round the head and opposite ear so as to completely cover the forehead and hair, leaving only the affected ear and adjoining skin visible through the aperture; this done the sheet is fastened on the top of the forehead with long curved forceps, shown in use in Fig. 1, and remains firmly fixed until the end of the operation. In this way all the hair is kept away from the wound during the operation and the head and hair are prevented from getting soiled with blood or lotion, thus saving much time and trouble in cleaning and drying after the operation, and obviating the necessity of shaving a large part of the head which is a great consideration, especially in the case of women.

I begin the incision at the top of the ear, just above the upper attachment of the pinna and in the angle where the cartilage joins the scalp and continue it round to the back of the ear in the angle all the way until it reaches as

far down as the bottom of the bony meatus. The incision must be made while the ear is in the natural position, for if the latter be turned forward at the time of the incision the skin will be drawn off the head and the wound will ultimately prove to have been made too far back. Its length does not exceed from one and a quarter to one and a half inches, according to the size of the ear. The first incision is limited to the depth of the skin; the ear is then pulled forwards, thus widening the incision, which is now deepened until the temporal fascia and pericranium are reached; the tissues superficial to these are carried forward with the concha until the cartilaginous meatus is seen; this must be thoroughly defined and the whole of the superior quadrant exposed by separating the upper part of the concha from the temporal fascia; the posterior quadrant must next be cleared of post-auricular muscles, and lastly the posterior half of the inferior quadrant of the cartilaginous meatus must be bared; thereupon a crescentic incision commencing on the supra-meatal ridge of the zygoma is carried round the exposed cartilaginous meatus and should reach the bone; the tissues within this crescentic incision are now separated from the bone far enough to expose the margin of the bony meatus and post-meatal spine. Then the meatus separator (E, Fig. 2) can be usefully employed and the cartilaginous meatus within the same limits must be carefully separated, and in continuity with it the skin extending all the way to the drum membrane can also be raised and saved and at the completion of the operation will be found valuable for covering a large area of bone and in providing a thin and shelving edge of epithelium to grow over adjoining bone as soon as granulations have formed, and moreover it reaches much farther within the cavity and therefore covers more bone than is possible when only the cartilaginous meatus is preserved. By this plan no more bone is bared than will need to be removed during the operation and the temporal fascia is unopened. The cartilaginous and cuticular lining of the anterior part of the bony meatus is neither moved nor damaged, so it is not likely to become swollen and thus to interfere with the proper inspection of the tympanum during the healing of the wound. Having

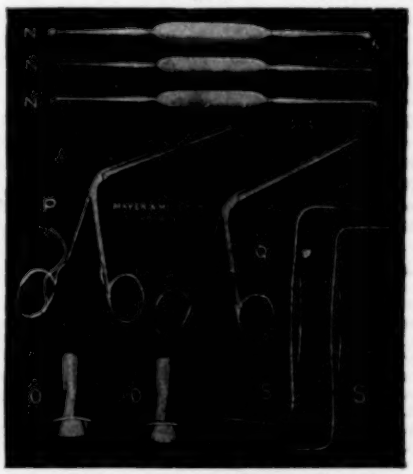
FIG. 3.



H. Six double-ended antrum probes for localising the antrum; these are suitable for both ears. I, Two ditto, one for each ear. J, One double protector for shielding the facial nerve when removing the bridge. K, Three operating probes; the smaller ones are necessary when the antrum is small. L, Two soft copper probes with handles; they are more malleable than silver and the handles facilitate their manipulation. M, One German silver sponging forceps for mopping out the cavity during the operation. N, One suture scissors for removing the stitches without the aid of any forceps.

controlled the hæmorrhage a narrow retractor (S, Fig. 4) is placed in the back part of the bony meatus and the tube of cartilage and skin is pressed against the front wall of the passage and is thus out of the surgeon's way. The operator can now explore the tympanum and through it the aditus and antrum. In Fig. 3 are shown (H) a number of double-ended probes—I call them antrum probes —one or other of which can be depended upon to pass into the antrum. Often it will go far into the cavity and the point can be turned outwards towards the skin, so that one can say, "This will be an easy antrum to open; it is large and the bone covering it is thin," and when this is the case you will see how confidently one can use the mallet and gouge. I frequently open the cavity in removing the first piece of bone and in more difficult cases where the antrum is small and deep, the bone sclerosed, and there is no indication from its structure that one is approaching the antrum, it is a satisfaction to know, with the aid of such probes, that one is working in the right direction and that the cavity is almost reached. Having defined the situation of the antrum as far as the probe has entered it and the position of the point is known by the indicator on the handle, should it have gone into the usual site of the antrum, it is proof that the lateral sinus is not misplaced and anxiety on that point is removed

FIG. 4.



N, Three double-ended curettes. O, Two mastoid specula for use during the after treatment; their shape enables them to remain in the cavity without being held. P, One spoon forceps for removing ossicles, granulations, and remains of the membrana tympani. Q, One stapes nipper. S, Two retractors for holding the cartilaginous and cutaneous meatus against the front wall of the meatus during the operation on the skull. The varying length of the ends are adapted to suit the varying depth of the meatus.

and I have been able by the aid of these instruments to foretell the dangerous position of the lateral sinus before exposing it. It is well to act as though the antrum extended somewhat lower than the probe, for it often does so, and, moreover, the bone below has to be removed at some stage of the operation, so there is no objection to doing it early. Here let me point out that if the cavity be large the post-meatal spine does not indicate the spot where the antrum comes nearest to the surface. A portion of the posterior wall just below the spine should be removed and this in my opinion is best and most quickly done with mallet and gouge; the instruments I use are shown in Fig. 2, D and C. If the antrum is not at once seen the opening in the bone can be deepened at the same time as it is widened vertically without extending further backwards. The probe will always tell the direction of the antrum should it prove to be deep. In a large majority of the cases I have operated upon I have found the antrum entirely in the pars petrosa, quite beyond the region of the mastoid process. Having found the cavity and made an opening large enough for a bent probe to enter, it should be explored and certain points cleared up, such as whether there is exposure of dura mater or lateral sinus, one of which conditions will be found in quite half the cases that come under operation. The opening can now be enlarged and the cavity followed and all irregularities smoothed out, and for this purpose the very long burrs shown in Fig. 2 (A) are most useful, inasmuch as they are not only long enough for both hands to be used, the right to drive and the left to steer, but

they allow the hands to be kept far enough away from the wound for the surgeon to be able to see how the work is progressing; by their means also the bone can be removed very rapidly if necessary and the bent ones can be worked in difficult positions, as, e.g., round a corner. I rarely enlarge the antrum more than just enough to remove all mucous membrane and to open out all recesses, for nature usually provides an inflammatory barrier round the cavity, blocking up the adjoining cells, and it is unwise to destroy this defence. For the purpose of removing the bridge over the iter I use the mallet and gouge, cracking cautiously and not actually cutting through the upper and lower supports, and lifting the loosened bridge out with a strong bent probe. This method does not jeopardise the facial nerve. It will now be easy to remove the malleus and incus, for which purpose I have found the spoon forceps shown in Fig. 4 (P) of great assistance, and have never known an ossicle to slip once the forceps has taken hold. The instrument is also useful for turning away the remains of the drum and any large granulations that may be present.

The most difficult part of the operation is the treatment of the tympanum itself. I am accustomed to remove the mucous membrane of the attic after thoroughly exposing it by removal of all overhanging bone. The mucous membrane of the lower part of the tympanum, including the oval window, I prefer to leave if the Eustachian tube is in good working order. The projecting part of the stapes I remove with fine nippers (Q, Fig. 4). If the Eustachian tube is obstructed I leave but the mucous membrane surrounding and joining the round and oval windows. The whole mucous membrane of the tympanum I destroy only when there is nerve deafness and no prospect of restoring hearing. Having completed the operation on the deeper parts it is necessary to smooth and to enlarge the new meatal canal so as to make it of the same size in its whole length and the anterior part of the original bony meatus remains as the anterior part of a much enlarged meatus.

It is now necessary to shape the meatal flap. A pair of long dissecting forceps being inserted into the cartilaginous meatus and opened widely will render the passage tense; a scalpel can now be entered from above and made to cut its way into the lumen of the meatus just internal to the concha. A pair of fine probe-pointed scissors are then used with one blade in this opening and the meatus is divided along the top from without inwards towards the tympanum but rather nearer the anterior than the posterior wall. An incision at right angles to the commencement of this incision is now made backwards and downwards as far as the middle of the floor of the cartilaginous meatus, passing close to the concha all the way. Thus a large flap is formed consisting of rather more than the posterior half of the meatus. This flap now falls downwards and backwards, covering the floor and part of the posterior wall of the newly enlarged meatus. The edge of the cartilaginous flap reaches to the pericranium which was left right up to the margin of the bony meatus in order that the flap might be stitched to it. Catgut is used for this stitch as it is buried when the ear is replaced. The knife is now passed through the orifice of the cartilaginous meatus and an incision is carried upwards and slightly backwards until the opening is large enough to allow the surgeon's little finger to enter. The bleeding having been arrested the whole cavity is dried and should be swabbed with some powerful antiseptic; a drainage-tube, as large as will go in, is inserted and it should be long enough to extend from the antrum to a short distance external to the tragus. The ear is now replaced and stitched in its natural position, the wound usually healing by immediate union on account of the fact that soft tissues only are involved, no bone being uncovered; moreover, the employment of the large tube has the effect of taking tension off the stitches. A well-squeezed and large wet dressing covered with waterproof soaks up discharge better than a dry one and can be removed with less discomfort to the patient as it does not adhere. The bandage should not be passed under the chin but should be kept entirely round the cranium so that it may not be soiled by vomit, and pressure, if such be necessary, can there be tolerated.

With regard to the after-treatment, on the next day I remove the dressings, mop out the cavity as far as possible through the tube, swab with some antiseptic, remove one or two stitches, and put on a dressing similar to the first but somewhat smaller as the discharge will be less. The bandage can now be taken under the jaw. On the second day I remove the dressings and the tube, examine and mop out the cavity thoroughly through a large speculum which I have designed to stay in without holding (O, Fig. 4), remove any organised clot or lymph, dry and then swab with iodoform emulsion, and replace the tube. The discharge will now be very slight and the patient after the mopping can generally hear a faint whisper. By this time the post-aural wound is usually healed and the remaining stitches are removed. The patient is generally allowed up with a small wet dressing daily applied until granulations have formed. At night a firm dressing and bandage are applied to protect the ear. You may have observed that no mention has been made of syringing the ear; it is not, in my opinion, desirable to do so. A rise of temperature is most unusual as the drainage is so good; if granulations are too abundant during healing they may be rubbed down with a 50 per cent. solution of nitrate of silver on a fine hard mop after an application of cocaine. Some of the best results I have seen have been in cases in which spirit drops were used from the second or third day; in these patients the wounds appeared to remain much as they were left at the operation, healing almost without granulations or discharge. I do not aim at early dryness of the mucous membrane of the tympanum if the Eustachian tube be in good working order, and though in process of time it will dry yet hearing will not then be lost. The drainage-tube is used in diminishing sizes until the wound is nearly healed, for it keeps the passage large and straight so that the deeper parts are visible and accessible; when finally removed the orifice will in a few days return to its natural size. I am convinced that tight plugging over the windows in the tympanum or scars involving these openings, and such always result from the usual operation, are responsible for the loss of hearing after complete mastoid operations, and that it has not hitherto been realised to what an extent hearing can be restored in the majority of cases.

The operation when performed with the view of effecting restoration of hearing is but little more difficult than the ordinary one, but the after-treatment needs much more attention in order that the two windows may not get damaged or covered with granulation or membrane, for if they can be preserved in all their elasticity a sound labyrinth and good hearing will probably be established, but should they become rigid the delicate structures within will surely suffer and deafness will result. It does not seem to matter how extensive the disease in neighbouring parts may have been, for provided the labyrinth has escaped the hearing can almost always be saved. I hold that operations which usually entail destruction of the hearing and which have been customary in the past are unsatisfactory. I also contend that a patent and perfect Eustachian tube should not be obliterated. Time does not permit me on this occasion to deal exhaustively with all these points.

I have shown you several patients this evening. They have been operated upon by me in the way I have described in this paper and mostly for disease endangering life. You have seen that they have no drums, that they are not disfigured, in some you cannot even discover where the incision was made. They can hear the voice, the whisper, and even the watch. They have been cured of the suppurative disease which endangered their lives as well as their hearing, and for all practical purposes they can hear as well as the majority of ourselves. Some of them on whom both ears have been subjected to this operation hold posts where tests for hearing are applied and yet are able to hear well enough to pass muster. Some have obtained situations and their employers have never even known that they have undergone this operation and that their drums have been removed. Others who have been discharged from their situations for deafness have been reinstated as soon as their hearing has been restored by the operation I have just described. I am speaking, observe, of cases of disease on both sides where it cannot have been possible that a sound ear was doing the work.

LONDON HOSPITAL MEDICAL CLUB.—The annual social meeting of this club was held at the Café Royal, Regent-street, London, W., on Dec. 8th. Dr. Percy Kidd occupied the chair and was supported by several members of the staff of the London Hospital. After the usual loyal and patriotic toasts there were some recitations, music, and singing and an enjoyable evening was spent. The benevolent scheme having been agreed to a meeting is to be held on Feb. 16th next to reconstruct the rules of the club.

CONGENITAL INTESTINAL ATRESIA.

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CASES of congenital intestinal atresia are comparatively rare, hence I venture to record the two following cases which have recently been under my care.

CASE 1.—The patient was a female infant, aged six days. She was born with a prominent navel. Since birth she had passed nothing per rectum and had passed very little urine. Vomiting commenced shortly after birth and persisted in increasing severity. The vomit latterly was dark brown in colour and very offensive. When seen on the sixth day of life there was a congenital umbilical hernia about three inches in diameter; the shrunken and blackened remains of the funis were attached to the summit of this. The coverings of the hernia had a dull yellowish, opaque appearance and passed on in continuity with the skin of the abdominal wall which formed no part of the covering of the hernia. There was an offensive odour as if the bowel might have given way. The abdomen was distended and many coils in peristalsis could be seen. The rectum was well formed. The diagnosis made was a snaring of the intestine in the umbilical cord. No attempt was made to reduce the hernia, although a coil of intestine was felt in the sac; on the suspicion that it was leaking it was considered better to operate at once without any attempt at reduction.

An incision was made around the base of the hernia and above the latter in the mid-line of the abdomen. The peritoneal cavity was opened above the sac after ligature of the umbilical vessels. The intestine entering the hernial sac was exposed and an attempt was made to withdraw this. This was unsuccessful and the sac was therefore slit up and the adherent intestine was separated. It was then noticed that this intestine ended blindly in the sac; there was no loop returning to the abdominal cavity. The intestine was clamped and the whole sac was removed. I then drained the small intestine and again clamped it. I now tried to find some large intestine with which to anastomose the ileum. Feeling first in the right iliac fossa and then on the left side and pelvis I was unable to find any. I then drew all the intestines outside of the abdominal cavity but still I could find no intestine otherwise than the dilated upper portion. I then drew the stomach down into the wound to find the transverse colon and found crossing the lower border of the stomach a narrow cord about half to one-third of an inch in diameter. This represented all I could find of the large intestine, which appeared to me much too small to admit of anastomosis and at this stage also the infant's condition prevented this treatment. The intestines were replaced and a Paul's tube was tied in the opened end. The infant died some few hours later. On examining the sac afterwards it was seen that coming off from the lower part of the distended intestine in the sac was a small diverticulum which appeared to have been ligatured in the cord from its dense adhesion in this region. This could not be definitely proved as advanced inflammatory changes had already taken place in the coverings of the hernia. Prolonged from the apparently blind end of the small intestine was a small cord-like structure about two inches in length, which on further examination was found to have a narrow lumen admitting a surgical probe and ending blindly. This lumen was apparently continuous with the lumen of the small intestine.

At the necropsy the large intestine commenced just below the hepatic flexure; the transverse colon, sigmoid flexure, and rectum were all present but very shrunken, having a diameter of from one-third to half an inch and a narrow lumen. The contents were merely a little colourless mucus. In the sac of the hernia, therefore, there was the lowest coil of small intestine, from which a diverticulum arose and was probably ligatured in the cord; beyond this point the intestine which represented the cæcum and ascending colon was much contracted, and although having a lumen it was too small to permit of the onward passage of contents. The intestine ended blindly in the sac and the large intestine commenced again just below the hepatic flexure of the colon. The malformation must have arisen quite early in fœtal life, before the end of the third month. The solution of continuity in the large intestine was in all probability caused by the snaring at the umbilical ring. The intestine could not recede into the abdomen owing to the adhesion of Meckel's diverticulum to the amnion. The large intestine inside the hernial sac was not developed, probably because the vessels supplying it were also snared by the umbilical ring, and hence for functional purposes the small intestine ended blindly. The large intestine inside the abdominal cavity was in a better state of development than that in the hernial sac but still very contracted and empty owing to non-use.

CASE 2.—The patient was a male infant, four days old. Shortly after birth he commenced to vomit; this persisted and became very offensive. The abdomen was distended. Nothing had been passed per anum. When seen four days after birth the abdomen was greatly distended and coils of intestine were seen in various directions in peristalsis. The rectum was normally formed. Intestinal atresia was obviously diagnosed.

The abdomen was incised in the mid-line. At the lower end of the ileum the intestine ended blindly and was continued on as an impervious cord, about half an inch in length, into a much shrunken and contracted large intestine. The obstruction was situated about two inches above the cæcum. The intestine was drained and an anastomosis into the large intestine was proceeded with. The infant's condition became so grave that this had to be abandoned. A tube was tied into the lower end of the distended intestine. Death occurred a few hours later. No necropsy was obtained. At the operation I tried to pass a probe from the upper to the distal segment through the band of occlusion. This was impossible and so presumably a complete atresia was present. The structure of the band of connexion I am unable to say.

Congenital atresia or stenosis of the intestine, excluding the rectum, is a relatively infrequent condition. Theremin writing in 1877[1] says that in 111,401 children it was observed only twice and in St. Petersburg in 150,000 children it was seen only nine times. The atresia may be found in the duodenum, the jejuno-ileum, or the large intestine. Silbermann[2] collected 24 cases of atresia of the duodenum, and 30 cases of atresia and three of stenosis of the jejuno-ileum. Gärtner[3] found in 38 cases, 20 times occlusion of the jejuno-ileum, 16 times of the duodenum, and twice in the colon. Schlegel, quoted by Braun,[4] collected 89 cases of atresia and stenosis of the intestine and found 29 occurred in the duodenum (32·5 per cent.), 54 in the jejuno-ileum (60·6 per cent.), and six in the upper portion of the large intestine (6·6 per cent.). The condition is found most frequently, therefore, in the jejuno-ileum, a little less frequently in the duodenum, whilst the large bowel, excluding the rectum, is rarely the seat of these defects. Complete atresia is more frequently observed than mere stenosis in all situations.

Cordes[5] collected 56 cases of congenital occlusion of the duodenum and added a further observation of his own. Of the 57 cases in 48 atresia was present and in nine merely stenosis. In 16 the infants were premature. The site of the occlusion had a close relation to the orifice of the common bile-duct. It was above the orifice of the duct in 20 (immediately above in 12, above but exact location not stated in eight); below the orifice of the duct in 13 (immediately below in two, below but exact location not stated in 11); on a level with the common bile-duct in two; the common duct opened into the intermediate canal in four; atresia was near the opening of the common bile-duct in one. The common duct was not mentioned in 15 (first portion occluded in three, at the junction of the duodenum and jejunum in five, six inches from the pylorus in one, the duodenum ended blindly in two, obliteration of the lower portion in one, complete closure of the duodenum in one, and the duodenum from the pylorus to the common duct converted into a cord in one).

The most frequent condition found in the jejuno-ileum is that where there is a complete obliteration of the lumen and the proximal and distal portions of the gut end blindly. The two blind ends may be united by a band continuous with the mesentery and in a few cases in this band a very narrow lumen has been observed; also muscular tissue and intestinal glands have been demonstrated, as in a case recorded

[1] Deutsche Zeitschrift, 1877.
[2] Jahrbuch für Kinderheilkunde, 1882.
[3] Ibid., 1883.
[4] Beiträge zur Klinischen Chirurgie, 1902.
[5] Archives of Pediatrics, 1901.

by Martens.[6] This connecting band may be absent and yet the two intestinal ends may be in close apposition, each provided with a mesentery, but the latter may be wanting over some portion. More rarely the two intestinal ends may be separated for some distance from one another and may lie in various regions of the abdomen. Hecker[7] found the proximal end of the small intestine lying in the sacral region, whilst the distal end lay under the edge of the right lobe of the liver, to which it was adherent. Lilienfield[8] found the peripheral end in the cæcal region of the abdomen and the central end under the left lobe of the liver. In my first case the proximal end was in the sac of an umbilical hernia and the distal end was just beneath the right lobe of the liver. In some cases the intestine is surrounded by a furrow externally and projecting into the lumen is a membrane or diaphragm of mucous membrane which is perforated in the centre. The bowel may be constricted and although permeable its lumen may be too small to permit of the onward passage of contents. The deformity is most frequently single but may be multiple. Atresia and stenosis may exist together as in cases recorded by Fischer[9] and Thorel[10] where several points of obstruction existed. Gärtner records a similar case.

Atresia of the colon is rarely seen. In my case there existed an occlusion in the ascending colon. Simmonds[11] describes a case of atresia of the ileum for which he performed an anastomosis between the ileum and colon. At the necropsy there was found in addition atresia of the sigmoid colon. A common condition is for the large intestine and small intestine below the obstruction to be extremely contracted and empty. The lumen is very narrow. The bowel is likened to the thickness of a slate pencil, a lead pencil, a quill pen, and so forth. How small and apparently undeveloped it is will be quite readily seen from these similes. Upon this fact in a great measure depends the prognosis. In such conditions it appears hopeless to expect that this much-contracted intestine can serve any function. An anastomosis would therefore seem out of the question. It has yet to be shown, I think, whether this contracted portion of gut is capable of dilatation and can serve any purpose or whether it is really an instance of non-development.

Etiology.—The causes which have been assigned as etiological factors in congenital intestinal occlusion are numerous. It may be definitely said that there is no common cause for this condition. More frequently than not the pathology of the condition is obscure and more or less theoretical. In a few cases there appeared to exist a definite etiological factor.

Pearce Gould[12] reports the case of an infant, three days old, admitted to the hospital with signs of intestinal obstruction. He opened the abdomen in the left inguinal region and found the small intestine greatly distended; a loop of this was sewed into the wound. Death occurred 21 hours later. At the necropsy the cæcum, the lower four inches of the ileum and the first four inches of the colon were filled with a firm whitish plug of inspissated mucus of the consistence of cheese; this was firmly applied but not adherent to the mucous membrane. In the colon beyond this plug were seen several masses of milk-white firm mucus. Below the colon and rectum were emptied and contracted. There was no fault in development. The plug must have been formed before the third month of fœtal life, as it contained no bile-pigment. The plug was definitely stated to be mucus.

Carwardine[13] reports the case of an infant, two days old, suffering from intestinal obstruction. Meckel's diverticulum was distended and formed a cyst which was produced by a volvulus of the diverticulum of some three turns. A fine impervious cord connected it to the bowel below and a minute stalk which would only partially admit a bristle attached it to the distended bowel above. The bowel above the obstruction was dilated, whilst the lower 12 inches of the small intestine were empty and tortuous and the colon was small and non-sacculated. No meconium had passed beyond the obstruction and therefore it must have existed from very early life.

Craig[14] reports a case of an infant who died from intestinal obstruction when 72 hours old. The obstruction was in the upper fifth of the ileum. At the site of obstruction on the side of the bowel opposite the mesentery was a fibrous cord resembling in structure the great omentum about two inches long and an inch broad; the opposite end was free in the abdomen. The two ends of the intestine ended blindly and were united by a band of fibrous tissue. Craig suggests that the band was a portion of great omentum which had become adherent to the intestine and had dragged on the bowel and produced congestion and inflammation of the intestine and the two opposing surfaces had adhered. This may be the explanation of the intestinal occlusion, but it is more probable that the band was not omentum but the remains of a Meckel's diverticulum.

Chiari[15] reports a case of occlusion of the small intestine 15 centimetres above the ileo-cæcal valve. The ends of the intestine were 4·5 centimetres apart and bound together by a sharp edge of peritoneum, in the distal end was a cylindrical intussusception seen with the naked eye. Braun reports the case of an obstruction about 10 centimetres above the ileo-cæcal valve; the intestine ended blindly. The intestine above the obstruction was much dilated and below was empty and contracted and did not contain any meconium. In the distal end was a necrotic portion of intestine about one centimetre long, adherent to the surrounding intestinal wall. This was only demonstrated by microscopical examination. Braun says that without doubt it was a necrotic intestinal invagination and regards it as the origin of the atresia. This author suggests that this may be a more frequent cause of intestinal atresia than is supposed if all cases were submitted to microscopical examination. Chiari thought it not at all improbable that the invaginated portion of intestine may become completely absorbed and leave no trace. This it is impossible to say, but it seems quite conceivable that intestinal invagination may be a frequent cause of intestinal atresia. To elucidate this point a further number of microscopical examinations are necessary.

Anomalies in the vascular system, embolism and thrombosis of the mesenteric vessels, and compression of the intestine by an artery are all given as causes of congenital intestinal occlusion. These, if they occur, are very rare. Jaboulay says that the arrest of development of the intestine depends upon vascular anomalies. Proof of this statement is wanting. Of embolism and thrombosis of the mesenteric vessels nothing is known. It must be noticed that in by far the majority of cases the intestinal atresia takes place very early in fœtal life, before the formation of the bile, since it is most unusual to have bile in the peripheral intestinal segment. How an embolism or thrombosis can occur at this period it is difficult to understand. How an embolism or thrombosis can involve such a small segment of bowel it is more difficult to understand. The rôle played by vascular anomalies, embolism, and thrombosis in congenital intestinal atresia is practically *nil*. Fœtal endocarditis admittedly exists, but the development of the heart in the recorded cases of intestinal atresia is normal. Of arterial degenerations of the fœtus, apart from syphilis, practically nothing is known. Atheroma of the aorta and pulmonary artery may with great rarity occur in ante-natal life. We are without a cause for embolism and thrombosis and also, I think, without a satisfactory demonstration of their existence; they must therefore play a very limited, if any, part in the production of congenital intestinal atresia. Gärtner refers to a case of occlusion produced by an omphalo-mesenteric artery and to a case of compression of the intestine by a new growth.

Fœtal peritonitis, torsion of the intestine, ulceration, and errors of development are the frequent causes of congenital intestinal atresia set forth by most observers. J. Y. Simpson[16] as long ago as 1838 thought that various congenital herniæ were due to fœtal peritonitis; that various malformations both in the way of displacement and arrested development in the digestive, urinary, and genital organs were indirectly caused by the same malady; and that inflammatory action in other serous cavities might lead in the same manner to malformations among their visceral contents. Silbermann and Theremin also regard fœtal peritonitis as the cause of intestinal atresia. Fiedler[17] also advocates this theory and thinks that a peritonitis developing in early fœtal life may

[6] Deutsche Zeitschrift für Chirurgie, 1900.
[7] St. Petersburger Medicinische Wochenschrift, 1896.
[8] Deutsche Medicinische Wochenschrift, 1901.
[9] Deutsche Zeitschrift für Chirurgie, 1891.
[10] Münchener Medicinische Wochenschrift, 1899.
[11] Ibid., 1900.
[12] THE LANCET, May 6th, 1882, p. 738.
[13] Brit. Med. Jour., 1897, vol. ii.
[14] Edinburgh Medical Journal, 1881.
[15] Prager Medicinische Wochenschrift, 1888.
[16] Edinburgh Medical and Surgical Journal, 1838.
[17] Archiv für Kinderheilkunde, 1864.

entirely disappear, leaving no trace except its effects on the intestine. Fœtal peritonitis is credited with the production of other deformities—e.g., non-descent of the testicle, malformations, and displacements of the female generative organs. Fœtal ascites, which by some is regarded as a fœtal peritonitis, has been seen in association with malformation of the lower part of the large intestine and various other malformations. In the 57 cases of duodenal occlusion collected by Cordes peritonitis was present in only three, the description of which is meagre and of little value. The peritonitis must occur before the third month of fœtal life and must have constricted the gut by that time, as in the majority of cases no bile has passed into the distal segment. The cause of the peritonitis is said to be syphilis or tuberculosis. If a fœtus be affected with syphilitic peritonitis before the third month it seems most improbable that that fœtus should continue to live and at birth merely show an intestinal atresia the result of the peritonitis. Visceral changes of syphilis are entirely wanting in these cases. Fœtal tuberculosis has rarely been seen but the disease has been seen involving the peritoneum and intestines. Mauclaire[18] relates a case of a necropsy in which he found, in addition to recent peritonitis around the site of operation, old tough adhesions binding the intestinal coils to one another and to the liver. There were a complete occlusion of the small intestine at one point and also many constrictions scattered along its course. At one spot a volvulus was present. In the mesentery many glands were enlarged and the tubercle bacillus was demonstrated in them. The description given of this case and the accompanying illustration strongly suggest that the peritonitis may have caused the occlusion. But it must be remembered that a volvulus was also present and a volvulus may have caused the obstruction. Other forms of fœtal peritonitis may occur but we are ignorant of their etiology. Single atresia is more common than multiple defects and it seems almost incredible that the only effects of a fœtal peritonitis can be a constriction of one portion of gut and that it may leave no further trace, as is the actual condition observed in the majority of intestinal malformations.

The site of the occlusion has some regularity—e.g., in the duodenum or the lower part of the ileum. Why does fœtal peritonitis leave its effects so frequently in such constant positions? The cases in which fœtal peritonitis has been assigned as the cause of intestinal atresia show comparatively recent peritonitis developed just before birth or possibly in some cases after birth. Druitt[19] records a case in which the evidence of peritonitis as the cause is at first sight more convincing than in some others. The jejunum and upper third of the ileum were immensely distended, dark, and vascular. The distension ceased at a tangled spot tied together by a multitude of adhesions which matted the coils of intestine to each other and to some enlarged mesenteric glands. The canal of the bowel ceased entirely at this point and besides the point of complete obstruction there were one or two places close by at which the canal was nearly but not quite obliterated. The remaining portion of the ileum and the colon were pale, small, and contracted. There were numerous adhesions, most of them of an extremely light, flocculent character between several points of intestine and the parietal peritoneum. Some of these adhesions were evidently recent. The density of the adhesions between the intestinal coils is not mentioned. The author states that there were one or two places where the canal was nearly obliterated but this was probably only by acute kinking. The peritoneal adhesions were localised to the lower ileum, the remainder of the peritoneum being free. There seems therefore very justifiable reason to doubt whether the peritonitis had anything to do with the intestinal atresia. In Carwardine's case some local peritonitis was present around the distended Meckel's diverticulum, but these adhesions were easily separated and were probably only produced shortly before or even after birth. They certainly could not have existed from the second month of fœtal life and have been the cause of the torsion of the diverticulum. Similarly, in other recorded cases the peritonitis is local, recent, away from the seat of the intestinal lesion, and the only conclusion that can be drawn is that the peritonitis had very little, if anything, to do with the malformation. It is impossible to state that peritonitis is never a cause, but it can be said that as an etiological factor it is very rare. Indirectly it may account for some cases by prolonging the time of retention of the primitive intestinal coils outside of the abdomen.

Torsion of the intestine has by many observers been regarded as a cause of intestinal atresia. Torsion of the intestine has been seen several times. Gärtner in 1883 collected 13 cases and since that time some further cases have been recorded. Volvulus is seen with occlusion and with partial occlusion, as in Carwardine's case, and with merely narrowing. In some cases the twist seems to have occurred in late fœtal life and in others it must have occurred quite early judging from the contents of the intestine below the volvulus. It seems that volvulus can account for some cases of congenital intestinal atresia, either a volvulus of the intestine coil itself or a volvulus of a diverticulum exerting strong traction on the intestine from which it is springing. It is quite possible and probable that peritonitis may have some cause in the production of the volvulus and in the persistence of it. I cannot believe that volvulus accounts for any cases unless the twisted coil or its remains can be seen. Surely it cannot completely disappear and leave no trace. It is a most unsatisfactory explanation of the cases in which the intestinal segments end blindly, either abutting on one another, separated by a centimetre or so, or widely separated, lying in quite separate regions of the abdomen. Some evidence of the volvulus ought to persist. At the most, volvulus of the intestine is only a very limited cause in the production of intestinal atresia. That it may occur in some cases is certain. But the cases are in a great minority.

Ulceration, loss of tissue, and consecutive stenosis have been given as a cause of congenital stenosis of the intestine. Marckwald[20] describes a case in which he found without doubt inflammatory lesions in the intestine and which he regards as the cause of the atresia which was also present. The intestine ended blindly; the ends were 1·5 centimetres apart. The changes which he describes in the wall of the intestine—i.e., ulceration—do not seem to be such as would be consistent with a complete disappearance of a portion of intestine. The obstruction must have existed quite early in fœtal life and the changes which he describes were more or less recent. Thorel[21] also describes a case somewhat similar in appearances and advances the loss of tissue seen in the intestinal mucosa as the cause of the atresia. The same objection applies to Thorel's as to Marckwald's case. The evidence that fœtal intestinal ulceration can result in atresia requires a considerable amount of confirmation before it can be accepted.

In favour of the theory that congenital intestinal atresia results from errors in development much may be said. Sutton[22] says that congenital obstruction and narrowing of the alimentary canal are always found in the situation of embryological events. With regard to the small intestine, the site of obstruction is found in the duodenum near the orifice of the common duct or in the lower ileum. In both these situations important embryological changes occur. From the duodenum the liver arises as an outgrowth. Very various malformations have been described in association with the growth of the liver—e.g., accessory livers, accessory pancreas, anomalies in the bile and pancreatic ducts, and also diverticula growing from the duodenum in the neighbourhood of the bile papilla. In the present state of our knowledge and in the absence of any other satisfactorily explained etiological factor it is quite justifiable to conclude that atresia of the duodenum is in some way associated with the development of the liver and the pancreas. The deformity occurs at a quite early period of fœtal life, at a time when the liver is developing before the rotation of the primitive intestinal tube. Any abnormal traction or abnormal closure in connexion with the primary hepatic outgrowth or other diverticula may result in duodenal atresia.

In the small intestine many cases of atresia can be traced to Meckel's diverticulum. This diverticulum, arising from the mid-gut, is usually attached to the lowest portion of the ileum. This depends on the greater development of the upper mid-gut than the lower, the V-shaped loop from which the greater part of the small intestine is evolved forming above the attachment of the vitelline duct. Lamb[23] records cases where the diverticulum was seen in the

[18] Bulletin et Mémoire de la Société Anatomique de Paris, 1899.
[19] Transactions of the Obstetrical Society, 1861.
[20] Münchener Medicinische Wochenschrift, 1894.
[21] Ibid., 1899.
[22] International Journal of the Medical Sciences, 1889.
[23] American Journal of the Medical Sciences, 1893.

jejunum and some in the ileum. The variability in attachment of the diverticulum may be explained by the variability in growth of the umbilical flexure to which the diverticulum is originally attached. The upper limb usually develops a portion of the duodenum, the jejunum, and the greater part of the ileum, and consequently the diverticulum is situated in the lower ileum. But should the lower limb of the umbilical flexure grow more luxuriantly then the diverticulum may have an abnormally high attachment to the intestinal canal. Hence it is conceivable that the diverticulum may practically have an attachment to any part of the intestine which grows from the primitive mid-gut. By the end of the third month the vitelline duct has generally disappeared. If this obliterating process exceeds the necessary requirements the bowel may be constricted or even completely obliterated. Several cases are reported where immediately in relation with a diverticulum the bowel was much stenosed. Cases of simple stenosis of the ileum not traceable to ulceration depend on the excessive obliteration of a Meckel's diverticulum. This is the most satisfactory explanation of single cases of stenosis occurring in the small intestine and also satisfactorily accounts for complete atresia with or without a cord-like band uniting the two blind ends of the intestine. The time in fœtal life which it would occur—i.e., before the end of the third month—would account for the non-appearance of meconium in the distal segment of the bowel. A Meckel's diverticulum may have another action. By persisting for an abnormal length of time without the abdominal cavity, retained there possibly by adhesions of the amnion, undue traction might be exerted on the growing intestinal coils, causing obliteration at the point of attachment, as in the case recorded by Craig and referred to above. A further cause from an embryological point of view is seen in the first case which I have recorded. There was a complete solution of continuity here in the ascending colon just below the hepatic flexure. The proximal end of the intestine lay in a congenital hernial sac and the distal end separated some distance from it in its normal anatomical position. A portion of the mid-gut originally without the abdominal cavity should recede during the third month when the vitelline stalk disappears and leaves the gut free to pass into the abdominal cavity. The vitelline duct persisted and caused some portion of intestine to be retained outside the abdomen, the walls of which gradually inclosed around it and snared it, causing a complete severance.

Ahlfeld[24] describes a case of a congenital umbilical hernia connected to the abdomen by a very thin pedicle. The hernia contained a portion of small intestine, the cæcum, and part of the colon. This was snared off from the rest of the intestine. The lower part of the small intestine ended blindly about one centimetre from the umbilical ring and the colon in the abdomen commenced about one centimetre from the ring. Laméris, quoted by Braun, describes a case where there was an atresia of the intestine in the sac of a congenital umbilical hernia. It is not improbable that an undue persistence of the intestinal coils in the umbilical vesicle may be the cause of intestinal atresia more frequently than is thought. This is generally believed to be due to the persistence of a Meckel's diverticulum which, being adherent, prevents the primitive intestinal coils from receding into the abdomen. The abdominal walls may close round the intestine and, so to speak, cut it off. At birth a congenital umbilical hernia may be present containing the snared bowel. But it is quite conceivable that later, after the continuity of the intestine has been interrupted, the diverticulum may disappear, and the intestine then be free to pass into the abdominal cavity. Such an explanation satisfactorily accounts for my case and also cases where the deformity is seen in the large intestine not associated directly with the obliteration of Meckel's diverticulum. It also seems the best explanation of those cases where the two blind ends of intestine are widely separated from one another.

Meckel's diverticulum may have a further action. By persisting and becoming adherent to the amnion, great traction may be exerted on the intestine which causes such tension of the walls and narrowing of the lumen and even obliteration resulting in a cord-like remnant. A similar explanation may possibly account for those rare cases of atresia of the sigmoid colon. Diverticula, the origin of which is entirely unknown, have been seen protruding from this portion of the colon; adhesion of these and traction may result in atresia.

Summarising the etiology of this condition it may be said that most, if not all, malformations in the duodenum are associated in some way with the development of the large glands from this region; that many single occlusions of the small intestine are referred to Meckel's diverticulum; that snaring of intestine by the umbilical ring accounts for some cases and probably this is of more importance than has hitherto been thought; that volvulus no doubt accounts for a few cases; that there is no satisfactory evidence that intestinal ulceration has anything to do with atresia; that fœtal peritonitis has a very limited, if any, application in the cause; and that the unusual cases where multiple points of atresia or stenosis exist are very difficult of explanation and probably depend on different causes acting together which have just been mentioned.

Symptoms.—The symptoms of this condition are vomiting, persistent and increasing in severity; abdominal distension; visible peristalsis; nothing practically is passed per rectum; the anus and rectum are well formed; rapid emaciation and exhaustion ensue, the disease running to a rapidly fatal issue. Vomiting generally occurs soon after birth or may be delayed to the second day. In general the higher the occlusion the earlier the vomiting but this is not always the case. In Cordes's analysis of 57 cases vomiting was noted in 41 and not mentioned in 16; vomiting material like meconium in 16; watery-brown or yellowish vomit in five; black or coffee-ground or blood in eight; nourishment in two; nature of vomit not stated in ten. There were meconium stools in 21; the stools were not stated in 29; there was stated to be no meconium in six. The character of the vomit and stools depends on the position of the obstruction with relation to the bile-duct. The epigastrium may be distended. The passage of a catheter into the stomach would aid the diagnosis of this condition. When the obstruction is lower down the vomit becomes very offensive and practically nothing is passed per anum, at the most some mucus free from bile in the majority of cases. The abdomen rapidly distends, particularly centrally, and peristalsis may be seen. The finger may be introduced into the rectum with ease and "bulging" intestinal coils felt. This has often been mistaken for a high occlusion of the rectum and a perineal dissection performed. A sound can be passed for some distance up the rectum. An enema merely brings away some colourless mucus.

Treatment.—The only possible hope for an infant born with intestinal occlusion is that afforded by means of surgery. This hope has up to the present time never yet been realised so far as I know. This statement, of course, does not apply to malformations of the rectum. Braun, in 1902, collected 25 cases which had been operated upon. Letoux,[25] in 1903, states that in all 32 cases of operation for this condition have been recorded in the literature. Since this date I have found a few isolated cases reported. Probably many cases are unrecorded. In every case the result has been unsuccessful. This depends in part on the tender age of the infant and in part on the difficulty of early diagnosis, but more, I think, on the character of the malformation. The distal intestinal segment is so contracted and shrunken, it is apparently functionless and incapable of dilatation, and therefore the onward passage of contents from the proximal to the distal segments is inhibited.

Enterostomy is the course which has been most frequently practised. This has been performed in various ways. In many cases the operator, suspecting a high rectal atresia, has incised in the left iliac region with the idea of performing colotomy. Finding only distended small intestine he has opened the loop which first comes forth regardless of its relative position to the site of obstruction. In a few cases an incision has been made in the lumbar region with the idea of performing lumbar colostomy and the small intestine has been drained from here. On one or two occasions the right iliac region has been incised either primarily or after a disappointing left iliac incision. The median abdominal incision has also been made use of and the intestine drained from this route. Some operators—Fairland,[26] Lücke,[27] Anders,[28] Braun, and Letoux—thinking a high atresia of the rectum existed, endeavoured to find the proximal end by dissection from the perineum. They failed

[24] Archiv für Gynäkologie, 1873.

[25] Bulletin et Mémoire de la Société de Chirurgie de Paris, 1903.
[26] Brit. Med. Jour., 1879.
[27] Jahrbuch für Kinderheilkunde, 1883.
[28] St. Petersburger Medicinische Wochenschrift, 1896.

and performed abdominal enterostomy. Kermisson reached the distended small intestine by the perineal route and opened and drained it.

Entero-anastomosis has been performed at least six times. Mangoldt, quoted by Braun, operated upon an infant three days old with five points of occlusion in the ileum. The jejunum was anastomosed to the colon immediately beyond the cæcum. Franke[29] anastomosed the ileum to the ileum for an obstruction from 23 to 25 centimetres above the cæcum. Death occurred from general peritonitis, the result of leakage around the line of suture. Simmonds[30] anastomosed the ileum to the cæcum and after the operation symptoms of obstruction persisted and at the necropsy there was found in addition an atresia of the sigmoid flexure. Braun, suspecting a high rectal occlusion, endeavoured to reach the proximal end from the perineum; being unsuccessful he incised in the left iliac region and here found contracted small and large intestine. He then incised in the right iliac region and found the cæcum and lower ileum contracted. A distended coil of small intestine was seen but it was impossible to draw this into the wound and so a median abdominal incision was made. Braun found the obstruction and anastomosed the ileum to the ileum. On pressing upon the proximal end intestinal contents could not be made to pass into the distal end. He then anastomosed again more distally, still nothing would pass. At the necropsy it was found that nothing had passed into the distal contracted intestine. Wanitshek[31] for an obstruction between the ileum and the cæcum joined the ileum with what appeared to be the largest part of the large intestine. Oliver,[32] in a case where the two ends of the intestine were separated about one and a quarter inches, performed an end-to-end anastomosis. Death occurred five hours later and the necropsy showed that the intestine below the anastomosis was greatly contracted and apparently nothing had passed into it from the proximal segment. In five of these cases the patients died within a few hours of the operation. Franke's case lived three days and then succumbed from general peritonitis. I cannot find a recorded case of an operation for a duodenal occlusion. The majority of these operations were performed during the first three days of life—eight on the first or second day and 12 on the third day. The majority of cases treated by enterostomy succumbed within 24 hours. Three lived to the second day, one to the fourth, one to the fifth, and one infant lived 15 days.

Such are the statistics for the relief of congenital intestinal occlusion and it may well be asked, Is surgical interference justifiable? The failure of enterostomy is not so much the shock of the operation as the short length of intestinal tube left for the absorption of nourishment. This will in itself always render enterostomy nothing more than a palliative operation. It has been suggested that enterostomy as a palliative measure should first be performed and later under more favourable conditions the anastomosis should be proceeded with. The results of the cases submitted to enterostomy at once show the uselessness of this suggestion.

The anastomosis, the ideal operation, is attended with some considerable shock which in itself is often sufficient to prove fatal, differing from enterostomy. In addition, the distal segment of the bowel is often, nearly always, so extremely contracted that suture is very difficult, and if successful thus far in more than one case the obstruction has not been relieved, since the intestinal contents, thick, viscid, glairy meconium, cannot easily pass into this distal contracted bowel. Yet this has done so. In one case out of six the infant lived to the third day and then suddenly collapsed and died from peritonitis. The outlook in this case would have been hopeful otherwise. This case at least gives hope that the condition is not beyond the reach of surgery entirely. If only one infant can be saved something is gained. The disease is most certainly fatal if left alone. The exact abnormality cannot be foretold. Even with such slight hope the abdomen should be opened. The median incision should always be used. It is waste of time to expose from the perineum or the iliac regions. If the obstruction be in the duodenum and jaundice exists operation is useless. Otherwise gastro-enterostomy should be performed. I am not aware that this has been done but it is no more severe than intestinal anastomosis and, I think, affords a better hope of success than the latter. In duodenal occlusion the intestine is better developed than is the distal segment in an obstruction of the ileum.

In a jejuno-ileum occlusion the anastomosis should be effected as close as possible to the deformity, to leave as much small intestine as possible in the circuit. Often the obstruction is so near the colon that the ileum will have to be anastomosed to the latter. The extreme contraction of the distal segment being one of the causes of failure after this operation it has occurred to me that it might be possible to overcome this by water pressure. It seems certainly worthy of a trial. This would have an additional advantage that it would test whether or not there were a second obstruction present lower down. Before suture the distended bowel should be drained.

If multiple points of atresia be present anastomosis would generally be impossible. Occasionally it may be possible as in Mangoldt's case. Single obstruction in the large bowel, a most rare condition, would necessitate colostomy. If anastomosis be impossible on account of the infant's condition or from the conditions of the occlusion temporary relief should be given by enterostomy.

Although all attempts so far to save these infants have been so universally unsuccessful, it is not too much to hope that with an early diagnosis, an infant in good condition otherwise, and a suitable abnormality gastro-enterostomy or ileo-anastomosis may yet be successful here as it is in so many acquired conditions of intestinal obstruction.

Harley-street, W.

[29] Verhandlungen der Deutschen Gesellschaft für Chirurgie, 1898.
[30] Münchener Medicinische Wochenschrift, 1900.
[31] Prager Medicinische Wochenschrift, 1898.
[32] Journal of the American Medical Association, 1901.

THE INTRAVENOUS INJECTION OF ANTITOXIN IN DIPHTHERIA.

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Two years ago Dr. D. L. Cairns published a report on the above subject.[1] He claimed increased efficacy for antitoxin when given intravenously, stating in particular that there resulted a strikingly rapid decline in the toxæmia, quick subsidence of glandular enlargement, and in pneumonic cases a marked diminution of the accompanying restlessness. In 50 cases of diphtheria, 20 of which were treated by this method, there were three deaths, a mortality of only 6 per cent. Of these 17 were tracheotomy cases with one death, a remarkably low mortality (5·8 per cent.). On the publication of Dr. Cairns's results we commenced the administration of serum by the intravenous method in grave cases. In 1903 seven patients (Series A) out of a total of 334 were so treated; the results were so equivocal that during the latter half of the year the method was discontinued. In the first nine months of the present year, however, it has been given a further trial, 38 cases being selected out of 246 (Series B).

SERIES A.—SEVEN CASES WITH FIVE DEATHS.

A brief report of these cases may be given.

CASE 1.—A female patient, aged 11 years, was admitted on Jan. 24th, at 12.15 P.M., on what was stated to be the second day of illness. There was thick membrane over both sides of the fauces and half of the soft palate. Both sides of the neck were greatly swollen. There was profuse discharge from the nose. The skin was pale. The temperature was 101° F.; the pulse was 128 and of low tension. At 4.15 P.M. 30,000 units of antitoxin (Serum A) were given intravenously. At 5.30 P.M. the patient had a rigor and the temperature rose to 105·2°. At 6.20 it was 106·2°, after which it gradually fell to 101·2°. On the 25th 26,000 units (Serum A) were given intravenously. There was no rigor or r se of temperature. On the 26th the local lesion showed signs of retrogression. On the 27th there was a decided decrease in the membrane and the nasal discharge was much less. On the 31st severe vomiting commenced. The heart was dilated and the pulse was soft and slow (60 per minute).

[1] THE LANCET, Dec. 10th, 1902, p. 1385.

The urine was scanty and contained a large amount of albumin. The voice was very nasal in tone. From this condition a slow recovery was made, the patient being ultimately discharged in the fifteenth week of the attack.

CASE 2.—A male patient, aged three years, was admitted at 9 P.M. on Jan. 24th, the sixth day of illness. On admission there was membrane all over both sides of the fauces and on the uvula. There were profuse nasal discharge and marked swelling of the neck. The pulse was 120 and of low tension. 30,000 units of antitoxin (Serum A) were administered intravenously. On the 25th the membrane had almost separated, the glandular swelling was much less, and the nasal discharge was reduced. The pulse had fallen to 84. On the 26th the pulse was 60; the heart-beats had a marked gallop rhythm due to a reduplicated second sound. The urine contained a large amount of albumin. The patient was very drowsy. On the 27th there was vomiting and the drowsy state continued; the urine was scanty. The patient died on the 28th.

CASE 3.—A male patient, aged four years, was admitted on Jan. 26th at 12.45 P.M. He was in the fourth day of the attack. There was extensive membrane on both sides of the fauces and on the uvula, with extreme swelling of the neck and profuse nasal discharge. There were pallor and some cyanosis. The temperature was 103·6° F.; the pulse was 144 and very feeble. At 2 P.M. 40,000 units of antitoxin (Serum A) were injected intravenously. At 4.15 P.M. the temperature had risen to 105·6° and there were increased cyanosis and collapse. Death occurred at 7.25 P.M., the temperature then being 103·6°.

CASE 4.—A female patient, aged four years, was admitted on July 29th at 2 P.M., the illness being then in the fourth day. There was extensive membrane all over both sides of the fauces, on the uvula, and on one-half of the soft palate. There was not much swelling of the neck. The general condition was good; the pulse was 144. The urine contained a trace of albumin. At 6.40 P.M. antitoxin was given intravenously, the dose being 18,000 units (Serum B). On the 30th the membrane was still very extensive. A subcutaneous dose of 12,000 units of antitoxin was given. On the 31st the membrane was quite loose. On August 1st the membrane had separated, leaving the throat very dirty and sloughy. On the 3rd vomiting commenced and the child sank rapidly. Death occurred on the following day at 6.15 A.M.

CASE 5.—A male patient, aged four years, was admitted on July 23rd at 2.30 P.M. on the third day of illness. There was membrane all over both tonsils with considerable œdema of the fauces and profuse nasal discharge. The pulse was 128; the urine was normal. An intravenous injection of 12,000 units of antitoxin (Serum B) was given. On the 24th there was slight epistaxis. A subcutaneous injection of 12,000 units of antitoxin was given. The further progress of the case was very slow, the septic element being prominent with profuse rhinorrhœa and ulceration of the fauces. On August 9th the patient had profuse hæmorrhage from the pharynx and died shortly afterwards.

CASE 6.—A female patient, aged four years, was admitted at 3.20 P.M. on July 25th, which was stated to be the third day of illness. There were a great deal of membrane all over both sides of the fauces and much swelling of the neck. Under ether 12,000 units of antitoxin (Serum B) were given intravenously and 22,000 units subcutaneously. Death occurred at 10.30 P.M.

CASE 7.—A male patient, five years of age, was admitted at 5.30 P.M. on July 17th, the third day of illness. Both tonsils were covered with membrane. There were laryngeal cough, stridor, and aphonia, but no recession or definite dyspnœa. The pulse was 100. Under chloroform 12,000 units of antitoxin (Serum A) were injected intravenously at 9.45 P.M. At 11 P.M. there was slight rigor and by 12.15 A.M. the temperature, previously normal, had risen to 103·6° F., after which it gradually fell. The urine was normal. On the 18th a subcutaneous dose of 16,000 units (Serum A) was given. The case followed a usual course. The patient was discharged in the sixth week.

It will be observed that two brands of serum (A and B) were employed. Serum A was previously in use for hypodermic injection and, when given intravenously, in three cases out of four—viz., Cases 1, 3, and 7—it caused within a short time a varying degree of chill, pyrexia, and circulatory depression. With neither serum was there any aggravation of the rash or of other later effects. Though Case 1 was extremely grave the age of the patient made her recovery less remarkable. Cases 2 and 4 ran an ordinary course to a fatal issue and Case 7 to a favourable one. In Case 3 the outlook from the time of admission was hopeless. The child in Case 6 lived only seven hours after admission, but we have thought it advisable to include it in the series. In Case 5 there was a large septic element, so that marked benefit was hardly to be expected. On the whole there was no evidence that the serum was more effective than when given subcutaneously.

SERIES B.—38 CASES WITH THREE DEATHS.

The absence of disturbance following the injection of Serum B led to its exclusive use during 1904 in a second series of cases. No useful purpose would be served by presenting clinical reports of all these cases. They are primarily grouped as naso-pharyngeal, pharyngeal, and laryngeal. In the first group there are 14 cases with no deaths. In five cases intravenous injections only were used, in six cases relatively small supplementary doses were given by the subcutaneous method, in two cases both methods were equally employed, and in one case the greater part of the antitoxin was injected subcutaneously. The following case is taken from the group.

CASE 10.—A male patient, aged three years, was admitted on Feb. 9th, the fourth day of illness. There was membrane on the whole of both sides of the fauces, overlapping forwards on to the palate, and some also on the pharyngeal wall behind the tonsils; there was profuse nasal discharge and the glands of the neck were considerably swollen. The pulse was 120 and of low tension. The urine was normal. At 4 P.M. antitoxin was given intravenously, the dose being 20,000 units (Serum B). On the following morning a further dose of 20,000 units was administered by the same method and at night the membrane had commenced to separate, but there was still profuse discharge from the nose. On the 13th the fauces were noted to be quite clear. The further progress of the case was without special features. A serum rash occurred at the end of the first week; it was not accompanied by other symptoms. Paralysis developed in the sixth week but was not severe. The child left the hospital in the tenth week.

Of pure pharyngeal cases there were 12 with one death. The administration of antitoxin was solely intravenous in two cases, mainly intravenous in five, about equally intravenous and subcutaneous in two, and chiefly subcutaneous in three. A single case only need be quoted here.

CASE 23.—A female patient, aged six years, was admitted at 9.45 P.M. on what was stated to be the second day of the attack. There was extensive membrane thickly covering both tonsils and involving the greater part of the soft palate on the right side. The neck on the right side was greatly swollen. There was no nasal discharge. The pulse was 144; the urine was normal. At 11.30 P.M. a dose of 20,000 units of antitoxin (Serum B) was given intravenously. On the following day (March 28th) the membrane had extended over a considerable part of the left side of the palate and had covered the uvula. There was great swelling of the neck. A second dose of 20,000 units of antitoxin was given intravenously at 2 P.M. There had been some vomiting and the general condition was serious with a tendency to failure of the circulation. On the 29th the membrane was no longer spreading but retrogression was not evident. Vomiting continued and the patient was fed by the rectum. On the 30th the neck was much less swollen. The general condition was better. On April 1st the general improvement was marked and vomiting had ceased. The case then ran an ordinary course. There was slight paralysis in the sixth week. The child was discharged in the tenth week.

The laryngeal cases fall into three groups—those not requiring operation, those intubated, and those in which tracheotomy was performed. In the first group there are two ordinary cases, both ending in recovery. One was treated wholly and the other chiefly by the intravenous method. In a third case the lesion was mainly pharyngeal and nasal but there was slight laryngeal involvement; it proved fatal and is quoted later. Six cases required intubation only and all the patients recovered. In four cases the treatment was purely intravenous, in one mainly so; in the remaining case an equal subcutaneous dose was given. One case may be detailed.

CASE 38.—A female patient, aged four years, was admitted at 12.50 P.M. on May 30th, the seventh day of illness. There were stridor, recession, and cyanosis. Intubation was immediately performed and gave complete relief.

There were patches of membrane on the tonsils. The pulse was 112 after the child had settled down. The urine contained a trace of albumin. At 2.30 P.M. a dose of 20,000 units of antitoxin (Serum B) was given intravenously. At 10.30 P.M. the tube became blocked; it was pulled out and replaced. At midnight 20,000 units were injected intravenously. On the 31st the tube was twice removed and replaced. On June 2nd the tube was dispensed with. The progress of the case was then uneventful. Early in the second week there was a serum rash with slight pyrexia. The patient was discharged in the sixth week.

Tracheotomy was performed in three cases with one death. In one all the antitoxin and in a second half of it was given intravenously; in the third the intravenous dose was subsidiary. The history of the first of these is as follows.

CASE 43.—A female patient, aged four years, was admitted at 10.45 P.M. on June 17th, the fifth day of the disease. There was membrane in patches on both tonsils, which were very large. There was profuse nasal discharge. The neck was moderately swollen. The cough was laryngeal. The general condition was unfavourable, the child being ill-nourished. The pulse was quick and feeble. A trace of albumin was found in the urine. A dose of 18,000 units of antitoxin (Serum B) was given intravenously at 11.50 P.M. By 7.30 A.M. on the 18th the laryngeal obstruction had considerably increased; at 9.30 A.M. intubation was performed and 20,000 units of antitoxin were injected intravenously. The child became pale and cyanosed towards the end of the injection but she quickly recovered when put to bed. At 11.30 P.M. tracheotomy was performed as the great enlargement of the tonsils and the nasal obstruction prevented the intubation from relieving completely. On the 20th the tube was removed. The further course of the case showed no special features. The patient was discharged at the end of the seventh week.

The fatal cases in Series B are all of sufficient interest to be reported.

CASE 25.—A male patient, aged seven years, was admitted at 2 P.M. on March 30th. The tonsils were very big and covered with rather thin membrane. The glands on both sides of the neck were enlarged. Somnoform was employed as a general anæsthetic when the intravenous injection was given. It was taken very badly, asphyxia threatened owing to pharyngeal obstruction, and tracheotomy had to be performed. The injection was thus interrupted, only about 4000 units having been given. The remainder (24,000 units) was injected subcutaneously. On the 31st the neck was very greatly swollen on both sides. The membrane was thick and much increased. The general condition of the patient was very bad. At 2 P.M., under chloroform, 30,000 units of antitoxin were given intravenously, followed by 20,000 units by the same method at 5 P.M. The patient continued to lose ground and died on the following day.

CASE 34.—A female patient, aged three years, was admitted at 7.15 P.M. on Sept. 8th, the eighth day of illness. There was thick membrane over the whole of the fauces on both sides. There were some nasal discharge and enlargement of the glands on the left side of the neck. There were laryngeal cough and slight stridor but no marked obstruction. The general condition was bad, the pulse was 132 and of low tension, and the heart was slightly dilated. A dose of 20,000 units of antitoxin was given intravenously at 9.30 P.M. On the 9th the urine was scanty and contained much albumin; it became almost solid on boiling. It had also the green tint associated with carboluria.[2] At 9.30 A.M. 23,000 units were injected intravenously. By evening the membrane appeared to be separating. On the 10th it was coming away but the patient's general condition was not improved and there was some vomiting. More urine, however, was being passed. During the next few days there was gradual loss of ground with increased vomiting. No urine was passed in the last 36 hours. Death occurred on the 15th.

CASE 44.—A female patient, aged two years, was admitted on April 1st at 8.10 P.M. The illness was stated to be of two days' duration. There was very extensive membrane over the whole of the fauces on both sides, over the whole of the uvula, and over a part of the palate. The glands were moderately enlarged and there was some nasal discharge. There were slight laryngeal stridor and recession. The pulse was 120 and feeble. On the night of admission 20,000 units of antitoxin were given intravenously. At 6 A.M. on the 2nd there was rapidly increasing obstruction with cyanosis. Tracheotomy was performed and gave complete relief. A dose of 20,000 units of antitoxin was injected subcutaneously. During the next two days the tube was frequently blocked with thick, dry mucus and pus and the child died from exhaustion and toxæmia at 7 A.M. on the 5th.

[2] The patient had not worn a carbolic cap since admission to hospital and there was no history of carbolic acid having been used in the treatment of the sore-throat; hence the question arose whether the condition of the urine was due to the antiseptic in the serum.

CONCLUSIONS.

In attempting to estimate the beneficial effect of antitoxin given intravenously those cases must be discounted in which a marked improvement follows intubation or tracheotomy, since this may be due mainly, or entirely, to relief of the obstruction. Nevertheless, it will be noted that of nine cases operated on only one died, and this must be regarded as a low mortality. Even in cases other than laryngeal it seems to us very difficult, if not impossible, to say of any individual patient that a better result was obtained than might have followed subcutaneous injection. However, taking Series B (from which deaths occurring within 24 hours are not excluded) as a whole there was a fatality of 3 in 38 selected severe cases. This result seems to be in favour of the intravenous method. At the same time, although many of the cases treated were undoubtedly very severe, there has been a general fall in the fatality of diphtheria in the district and this leaves room for speculation as to whether the subcutaneous method might not have yielded better results than in the past.

THE PARASITES OF SMALL-POX, VACCINIA, AND VARICELLA.[1]

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IN attempting to ascertain the cause of amaas or Kaffir milk-pox[2] it was hoped that if the morbific agent of that disease could be established light might be thrown on the cause of the analogous eruptive fever of small-pox. But all attempts to separate a specific organism for amaas proved as fruitless as have hitherto been all efforts to separate the agent of variola. That the specific cause or causes of variola, vaccinia, and amaas are in their respective lymphs is manifest. How, then, can the fact that so many capable observers have failed to detect the contagium in the vesicular contents of those diseases be accounted for? Three possible explanations suggest themselves in this connexion. First, the organism may from the smallness of its dimensions escape detection. Chauveau[3] in his original investigation on calf lymph clearly proves that the contagium of vaccinia is due to visible particles and that the elimination of these particles removes the effectiveness of vaccine lymph. The assumption that the cause of vaccinia is microscopically invisible is therefore not tenable. Secondly, the failure to recognise the germ may arise from the lack of a staining reaction which would serve to differentiate the pathogenic organism of variola or vaccinia from the débris present along with the organism in the pock. A third cause for the want of success in demonstrating the causal agent of variola or vaccinia by the methods usually adopted may be that, on account of its fragile nature, the ordinary methods of staining and fixing invariably lead to its destruction. Fortunately this third hypothesis is one which could easily be tested and its disregard is, as I hope to prove, the reason why the arduous labours of many investigators have failed to bring to light the contagium vivum of variola and vaccinia.

With the object of testing this view of the case a hanging-drop preparation was made of amaas lymph which had been stored in a capillary tube for six months, no other manipulation beyond that of allowing the lymph to gravitate out of the tube on to the cover-slip being employed. On examination this specimen was seen to contain a large number of circular elements, a few of them showing a

[1] As demonstrated before the Pathological Society of London on Nov. 15th, 1904.

[2] Vide THE LANCET, May 7th, 1904, p. 1273.

[3] Comptes Rendus de l'Académie des Sciences, 1868, vol. lxvi., pp. 289-93 and 317-22.

rounded nucleus, and including numbers of highly refractile granules in their interior. A number of these bodies were next seen to rupture and to disappear from view, a mass of granular detritus replacing them. This disruption, as was subsequently discovered, was due to desiccation, an agency infallibly destructive to this cellular element. The fact that these bodies had survived for six months in a capillary tube renders the possibility of their being leucocytes improbable (leucocytes in human blister fluid disappear even though kept at the temperature of the blood after 14 days), nor were they ordinary pus corpuscles, for in whatsoever manner fixation was attempted, whether by heat, alcohol and ether, or osmic acid, their destruction always resulted. Through the courtesy of Mr. E. C. Greenwood, public vaccinator for Marylebone, some human vaccine lymph was collected in capillary tubes on the ninth day of the disease. Put up as a hanging drop, with the same avoidance of manipulation as in the case of the amaas matter, this lymph also displayed a considerable number of unicellular globes with refractile contents. On the warm stage at 98° F. these bodies evinced considerable motility, the movements being so rapid at times that the alterations of shape could not be depicted. To make sure of encountering these bodies human vaccine lymph must be gathered on the eighth or ninth day of the eruption, at any rate not later than the ninth day, and should be examined within 24 hours of its collection, for it has been found that these cells disappear from the lymph spontaneously on or about the tenth day, whether situated in the vaccinia vesicle or stored in a capillary tube.

Leucocytes in human blister fluid kept at the temperature of the body may remain intact for five days or longer. For these reasons I consider these bodies to be protozoan parasites, though to what class of protozoa they belong I cannot say, but they are clearly not bacteria. Further evidence of their protozoan nature will be submitted later. The parasite is found in secondary vaccination as well as primary cases, though more abundantly in the latter. As there are comparatively few protozoa present in any given specimen of human vaccine lymph it is advisable to centrifugalise the capillary tube containing it, and thus concentrate the parasites prior to examining the specimen. Should the drop exuded from the capillary tube be too deep it may be spread with the edge of a small bit of paper after the manner of a blood film, but owing to the extreme delicacy of the organism great care should be exercised to avoid its rupture by pressure or by desiccation. Should, however, variolous matter be available, the protozoon will be found in extraordinary numbers in the lymph from a pock on the fifth day of the eruption. Owing to the want of opportunity it has not been decided at what period the fully grown parasite makes its appearance in the pock.

From variolous matter stored in a capillary tube and free from any contaminating organism the protozoon can be regained six months after its collection and probably longer. To observe the parasite in glycerinated calf lymph—and all remarks refer to the glycerinated product—it is advisable to obtain fresh material, the fresher the better. A drop is allowed to exude on to a cover-slip from the capillary tube and then the drop is carefully spread with the edge of another cover-slip. By practice a certain thickness of smear will be found to yield the best results as to the number and visibility of the protozoon and also numerous refractile granules which I regard as its spores, both being present in large numbers, just in proportion to the virulence of the lymph; better results are obtained by suspending a small quantity of the lymph in normal saline solution.

The protozoon of variola and vaccinia.—For descriptive purposes I propose the temporary name of "amœba variolæ vel vaccinæ" for this protozoon. The fully developed parasite is an amœboid organism and measures about $\frac{1}{12500}$th of an inch and has for the most part an oblate spheroidal shape, but encysted forms are found in variolous matter and calf lymph which are four or five times as large as this. The parasite consists essentially of cytoplasm, which in the encysted form is inclosed in a well-marked cell wall, and of a rounded or ovoid nucleus apparently having a definite membrane, and this nucleus can be seen to possess a circular nucleolus. The protoplasm of the cell is finely granular and contains large numbers of highly refractile greenish particles which I regard as the spores. The cytoplasm is divided into ectoplasm and endoplasm, the distinction being best seen when the organism is active. The nucleus cannot often be seen, being usually centrally situated and thus hidden by the numerous granules or spores contained in the cytoplasm. The spores give the amœba its characteristic appearance. It is difficult to be sure of the shape of the spore; in its earliest stage it would seem to be somewhat pyriform in outline, the thin end being probably continued into a flagellum, for the spore is exceedingly active immediately after its escape from the parent cell; its movement ceases at the temperature of the air but recommences at blood heat. There are no vacuoles in the cytoplasm. No multiplication has as yet been seen to occur by direct division of the amœba nor has any phenomenon, beyond the embracing of one amœba by another, which could be interpreted as a sexual act, been observed.

The most characteristic feature of the amœba is its motility and on the warm stage it is constantly altering its contour. In the case of variola no definite pseudopodia have been seen. In glycerinated calf lymph the glycerine probably inhibits the movement of the parasite as well as that of the spores. M. Calmette,[4] in speaking of fresh calf lymph, remarks that these refractile grains, which he looks upon as the virulent element of vaccine, are mobile, but that in glycerinated vaccine pulp the granules are larger and immobile. The amœbæ found in human vaccine lymph fluid are exceedingly lively, numerous pseudopodia being continually extruded and retracted. All movements of these bodies cease at the temperature of the air and to see them blood heat must be maintained. As I hope to publish shortly a paper on a method of cultivating the organisms of small-pox and vaccinia *in vitro* a more detailed account of their life-history is reserved for a future occasion.

Variolous matter contains a large number of amœbæ but relatively few extracellular spores. The amœbæ alter their contour on a warm stage but there is no well-marked pseudopodium formation. The spores are motile when outside the parasites and are very refractile. There are also present large encysted parasites with a definite cell wall possessing a large nucleus with a definite nucleolus. The encysted parasite can be found in lymph which has been stored for a month or more. The amœbæ persist in variolous matter for many months. Absolutely fresh variolous matter can be fixed by immersion for 15 minutes in equal parts of alcohol (Spiritus Rectificatus) and ether, and can then be stained with Löffler's methylene blue; the parasite takes up the dye irregularly and *the nucleus not at all*. Suspended in a normal saline solution to which a trace of eosine has been added, the organism is found not to take up the dye. After fixing with a saturated aqueous solution of perchloride of mercury the spores can be stained with aniline gentian violet in 30 minutes but lose the dye on completing Gram's method.

Human vaccine lymph.—From the few opportunities afforded for examining this substance it cannot be stated at what date in the evolution of the disease the parasite makes its appearance but it is conjectured that the height of the inflammatory process, the eighth or ninth day, is coincident with the presence of the maximum number of amœbæ. It has been stated before that the best day for collecting human vaccine lymph for the purpose of seeing the organism is the ninth day. It has been found that in lymph gathered on the tenth day the minute motile spores are very abundant but either none at all or only a very few amœbæ are to be seen. On the eighth day of vaccination young parasites are to be found. This organism is very delicate and thus far success has not attended its fixation. The spore, which is exceedingly small, is actively motile for a few hours after its removal from the vaccine vesicle. It can be fixed with equal parts of alcohol and ether and stained with aniline gentian violet in half an hour. It is advisable to employ a $\frac{1}{12}$th inch objective to see these small elements and to use artificial light and carefully regulated illumination. The amœba as found in the vesicle of a vaccinated monkey seems to be a more hardy organism, since it can be found as late as the thirteenth day, is easily fixed with alcohol and ether, and stains well with methylene blue; whether the nucleus stains or not has not been decided. The number of amœbæ present in such lymph is also much greater than is found in human vaccine. From the foregoing it will appear that human vaccine lymph differs from variolous matter and calf lymph in the relative paucity of amœbæ in the former compared with the latter, in the spontaneous disappearance of the amœbæ from human vaccine while these bodies

[4] Annales de l'Institut Pasteur, No. 3, March 25th, 1901, p. 166.

persist for long periods in variolous and calf lymphs, and in the much smaller size of the human vaccine spore.

Glycerinated calf lymph, especially when fresh and virulent, contains an enormous number of spores and amœbæ of all sizes; both are for the most part immobile, the movement being probably inhibited by the presence of the glycerine, but under certain conditions both these elements show slow though distinct motion. The organism is comparatively hardy, persists for many months in capillary tube specimens, and contains large encysted forms, especially when a month or two old; in fact, the amœba shows a strong tendency to encapsulation. A nucleus cannot usually be made out in the fresh state, but if stained after fixing for a few moments with the fumes of a 2 per cent. solution of osmic acid, with aqueous safranin, or, still better, *in vivo* in a normal saline solution tinted with safranin, the nucleus shows up plainly, especially after 24 hours. From the irregular manner in which different amœbæ take up the dye the process can hardly be considered as a true staining one—e.g., a considerable number of the smaller forms do not stain at all, while the larger bodies are sometimes dyed quite deeply.

The following cytological method of staining calf lymph shows up the organism distinctly; the readiness with which any epithelial derivatives present in the lymph take up the brown colour throws the amœbæ into strong relief. A capillary tube of calf lymph is emptied of half its contents, then the tube is filled with a weak solution of Bismarck brown in salt solution, and the lymph and the solution are caused to mix in a centrifugal machine. In a few minutes the specimen will be ready and can be mounted as a hanging drop preparation or more permanently in a shallow cell; this serves to avoid the pressure of the cover-slip which would rupture the ectosarc of the amœba.

In varicella lymph I have also detected bodies similar in general characters to those of variola and vaccinia. The protozoon of this disease is present in the vesicular contents of the pock on the first day of the eruption and can also be found on the third day. Owing to the scantiness of the material at command nothing definite can be stated as to whether the parasite persists in stored lymph at the temperature of the air, as in variola, or whether it disappears spontaneously from the vesicular contents, like the protozoon of human vaccine lymph. The amœba is a spheroidal body about $\frac{1}{2500}$th of an inch in diameter, consisting of cytoplasm and a large, clear, circular nuclear body. The cytoplasm is finely granular and contains a number of coarser refractile granules, probably spores. This protozoon has one or two large nuclei, which, as in the similar organisms of variola and vaccinia, are only occasionally seen and that only when the organism is at rest. There are no nucleoli or vacuoles to be discerned. On the warm stage the organism assumes a variety of shapes. The nucleus if seen becomes lost; the protoplasm appears to swell up and to stream about in a very active manner. The spongioplasm and coarser granules become aggregated at certain spots, leaving spaces of clear hyaloplasm. The spores often show individual intracellular activity. The streaming protoplasm is extruded in all directions, either as blunt pseudopodia, but more often as greenish sharp thorn-like processes. If the temperature is reduced the amœba may or may not return to its former resting shape, when it is for the most part circular in outline, with its granules evenly distributed in its substance, and any distinction between ectoplasm and endoplasm evinced on the warm stage is lost. The parasite can be fixed in a certain number of instances with equal parts of alcohol and ether. Only the very gentlest manipulation must be used in spreading the lymph, as the amœba is very easily destroyed. Fixed thus for 15 minutes and stained for ten minutes in Löffler's methylene blue, the nucleus or nuclei are found to stain very deeply, while the cytoplasm takes up the colour feebly. In this respect the organism differs materially from the amœba variolæ, in which, as already pointed out, the nucleus does not stain. It will be seen from this description how very unlike a leucocyte this body is; furthermore, in stained sections of the vesicle of varicella no leucocytes are to be found in the neighbourhood of the vesicle at this early stage. The organisms detailed in the foregoing descriptions are quite easy of demonstration and anyone following the directions given will have no difficulty in seeing them. From the above description of the parasites of variola and vaccinia it will be seen that they correspond closely with the organisms described by Funck under the name "sporidium vaccinale."[5]

For the assistance given to me in various ways I would like to tender my cordial thanks, in addition to those already mentioned, to Dr. H. W. Willson, Dr. John McFadyean, Dr. W. J. R. Simpson, Mr. A. Wynter Blyth, Dr. T. F. Ricketts, Dr. J. Massey of Graaff Reinet, Cape Colony, and to Dr. R. T. Hewlett, whose helpful suggestions and constructive criticism have been of the very greatest assistance to me.

SOME OBSERVATIONS ON CONVULSIONS IN CHILDREN AND THEIR RELATION TO EPILEPSY.

BY R. O. MOON, M.D. OXON., M.R.C.P. LOND.

INFANTILE convulsions are a well-worn field and it is only the practical importance of the subject that leads me to contribute such facts as I have been able to find emerging from the observation of some hundred cases which, owing to the kindness of Dr. F. J. Poynton, I have been able to make during the past two years in his out-patient clinic at the Hospital for Sick Children, Great Ormond-street. These observations being entirely clinical are somewhat fragmentary and the difficulty in many instances of following up out-patients continuously makes them less detailed and precise than could be wished. To those who are not in the habit of seeing much of children convulsions are apt to suggest one of three things: (1) tuberculous meningitis; (2) teething convulsions; and (3) epilepsy. But a little experience shows that convulsions in children have a very wide range. It is impossible therefore in this paper to deal with the convulsions that arise from such gross lesions of the brain as meningitis, tumours, &c., or from toxic conditions such as uræmia. I have also excluded cases with obvious symptoms of cerebral diplegia and confined myself to the consideration only of those convulsions which are apparently idiopathic and those which, seeming to arise from some reflex cause, are regarded in many text-books as infantile convulsions proper, but the term eclampsia seems preferable for them.

Etiology.—To take, first, the remote or predisposing causes of infantile convulsions it appears that heredity and alcoholic habits in the parents are the most prominent. All writers on this subject attest the importance of heredity and in at least half of my cases there was a history of epilepsy, or insanity, or convulsions in childhood in one or both of the parents or grandparents. Alcoholism in the parents was also an important factor, as a quarter of these cases gave a history of alcoholic excess in one or other of the parents, sometimes in both. It would perhaps be not unfair to assume that there were others who may have been prevented by a sense of shame from making a truthful confession, so that probably the proportion should be larger. With regard to more immediate or exciting causes I have been much impressed by the fact that in half the cases there seemed to be no cause at all, for the children were to all appearance perfectly well prior to the onset of the first fit, which occurred quite suddenly as a bolt from the blue. In the other cases, however, the first fit was found to be associated with the following conditions: rickets, teething, specific fevers, traumatism, digestive disturbances, emotional shock, or indefinite illness.

1. *Rickets.*—Rickets has been found to be present in 11 cases and of these half had a hereditary history which, in view of the importance of heredity as an etiological factor, somewhat discounts the significance of rickets as a cause.

2. *Teething.*—Ten cases have had this association. One naturally hesitates, however, to ascribe so pathological a phenomenon as a convulsion to such a physiological process as dentition and would feel disposed to regard the relationship as accidental. Such facts as we have do not point definitely in either direction, for while, on the one hand, the fits did not in any of the cases cease with the completion of dentition, on the other hand, in one case the association was particularly close, for not only did the child first have convulsions when cutting his incisors but they

[5] Brit. Med. Jour., Feb. 23rd, 1901.

recurred regularly with the succeeding teeth and also with the second dentition.

3. *Specific fevers.*—Five cases appeared in this connexion for the first time. Two occurred prior to the onset of measles, one immediately following measles, and two in the course of pertussis. In the text-books on children convulsions and rigors are often spoken of as though they were interchangeable terms. We have not found a convulsion at all common prior to the onset of a specific fever and Baldwin[1] concludes from the study of 130 cases of acute febrile disturbances in children, the majority of which might have been accompanied by rigors in adults, that convulsions very rarely take their place even in infants. Moreover, it is doubtful whether pathology admits of a convulsion being looked upon as the counterpart of a rigor. When such a convulsion does occur it is not in my experience an isolated phenomenon, but it is quite liable to recur after the child has recovered his health and strength and two of these cases subsequently became subject to frequent attacks of *petit mal* and one of *grand mal*.

4. *Traumatism.*—Of seven cases showing this association all became epileptic. The following are instances.

CASE 1.—A child had a fall at the age of five and a half years, was taken home unconscious, and two months later began to have fits for the first time. The child became very irritable and passionate after the fits had begun, having previously been very good-tempered. In this case there was no hereditary taint or history of alcohol in the parents.

CASE 2.—A boy, at the age of ten years, was shaken by a woman and thrown down so that he knocked his head against a stone; shortly after he began to have nocturnal fits frequently. He had also become very irritable and quite different in character from what he had been prior to the fits. There was no history of heredity or alcoholism in the parents.

5. *Digestive disturbances.*—Only six cases showed this association, as when carefully investigated it was clear in many instances that the convulsion bore no true relation to the digestive disturbance. The following, however, are striking instances.

CASE 1.—A child at the age of four years had a fit for the first time after having eaten an orange, skin and all. Here, however, there was a history of fits in the parents and the child was mentally deficient prior to the fit.

CASE 2.—A boy, aged seven years, went to an evening party, had a heavy supper, and then sat in a hot room with his back to the fire; that evening after going to bed he had a fit for the first time. He has never had one since.

6. *Emotional shock.*—A boy, aged ten years, while passing an empty house in the dark saw somebody jump out on him suddenly. Soon after he began to have frequent *petit mal* attacks. Not till a year later did he have an attack of *grand mal*. There was no history of heredity or alcoholism in the parents.

7. *Indefinite illness.*—This class consists of those who prior to the first fit were ailing and delicate. There were four cases which developed convulsions in these circumstances. In each case the initial convulsion was followed later by an obvious condition of epilepsy.

8. In five cases the fits have commenced at birth, but in these instances it has been impossible to eliminate the influence of traumatism at parturition. They all became definitely epileptic. Of other supposed reflex causes of convulsions, such as worms, we have met with no examples in this series of cases.

Diagnosis.—How is it possible to know in a given case whether a convulsion is an eclamptic seizure or an epileptic fit? All convulsions in children *qud* convulsions are similar. No one being summoned to the bedside of a child in convulsions could at once say whether they were due to idiopathic epilepsy or eclampsia. Such attempts at distinction between the two as have been made do not seem very convincing; thus it has been said that the epileptic paroxysm is generally short, whereas simple convulsions may last for hours. Dr. Eustace Smith tells us that "if the attack lasts for an hour or more without intermission, we may conclude that the attack is eclamptic; epileptic seizures rarely exceed ten minutes." Also, "if there is high fever the disease is probably not epilepsy." A more general statement is "the older the child at the onset of the convulsions, the more likely are they to be epileptic; within the first year epileptic seizures are rare." Such criteria are so uncertain that in a rough practical way the difference between the two has been decided by reference to their supposed etiology.

When there are some definite morbid or unusual conditions associated with the initial convulsions then they are regarded as eclamptic, and only when they occur without any such associations are they considered to be epileptic. It is further assumed that in the case of eclampsia the convulsions will cease on the disappearance of the morbid condition in association with which they first arose. Such distinctions have not been borne out by this series of cases, for there were many cases in which the convulsions, though they arose in the first instance in association with rickets, specific fevers, teething, traumatism, or digestive disturbances, have not ceased with the disappearance of their supposed cause, nor has their effect upon the mental and moral condition of the child been materially different from that of ordinary epileptic attacks. To give a few instances.

CASE 1.—A boy, aged seven years, had the first convulsion at the onset of measles when two and a half years old and two more during the course of that disease. A few months later he had another fit and since then for the last four and a half years has had attacks of *petit mal*, averaging one per diem. The child is very irritable and restless.

CASE 2.—This patient was a boy, aged six years. The first fit occurred in association with rickets at the age of 11 months. Since then he has continued to have fits at intervals of about nine months.

CASE 3.—A boy, aged ten and a half years. When eight months old he fell on his head and very shortly after had a fit. Since then—during the last nine and a half years—he has continued to have attacks of *grand mal* about once a month. The child is rather destructive but the intelligence is good.

CASE 4.—A boy, aged nine and a half years. The first fit occurred while teething at the age of nine months; he continued to have fits off and on for the next three months. After that he had no more and the health was quite good till eight years later, when he had an epileptic attack, which since then has recurred about once a fortnight. He has also become passionate and violent since the return of the fits.

CASE 5.—A boy, aged six years. The first fit occurred while the child was ill with diarrhœa at the age of five and a half years. Since then, though his general health is now good, he has had frequent attacks of *petit mal* and occasionally *grand mal*. He has become dull and heavy in manner, having previously been bright and intelligent at school.

As far, therefore, as my experience goes it seems impossible to draw any satisfactory dividing line between eclampsia and epilepsy. However *a priori* reasonable it may appear to be that fits arising with some definite morbid association should differ in kind from those arising when the child is in perfect health, it is very difficult to find any means of distinction which should be practically useful.

In the case of epilepsy the action of the motor cortex has the appearance of being automatic, while in the case of eclampsia it seems to be reflex. But it is hardly possible to make this distinction definite in fact, however clear it may be in thought. The more subtle forms of afferent impulse escape man's powers of observation, so that it may well be that all automatic manifestations of the cerebral cortex are really reflex. This question of diagnosis brings us face to face with some obscure nervous phenomena in children, which are clearly of an epileptiform nature, yet hardly to be termed epilepsy. In illustration of what is meant the following cases are quoted.

CASE 1.—A boy, aged eight and a half years, had convulsions in infancy associated with teething, lasting off and on till he was two years old; then five years later he had a few typical epileptic fits. Since then about twice a week he has an attack in which his left arm shakes; it twists back behind him and goes stiff. There is no loss of consciousness and he sometimes manages to control the shaking to some extent by grasping the left arm with his right. His mother noticed that even in infancy his left arm shook whenever he was frightened and when there used to be an epileptic fit the aura often consisted of a peculiar sensation in the left arm which, however, did not move during the fit. There is nothing else abnormal about the boy; he is quite intelligent and satisfactory in his conduct.

CASE 2.—A boy, aged eight years, had convulsions in infancy and since then has been quite well till six months ago when he began to have attacks of retching but was not actually sick; in a few minutes he was all right again. Lately these attacks have changed in character; instead of

[1] THE LANCET, June 13th, 1896, p. 1635.

retching he works his arms, does not lose consciousness, and can speak while it lasts but his voice is peculiar and he seems to have a strange look in his face. Prior to the attack he feels as though he were going to be sick and works his arms in order to try to prevent it. These attacks last about two minutes and he then feels quite well again. In this case there have been no definite epileptic fits and in other respects he is quite normal and very intelligent.

CASE 3.—Two sisters, aged respectively five and three and a half years, suffer with periodical attacks of shaking of the arms. Soon after they were able to walk they would stop suddenly, look on the ground and begin shaking with both arms. These attacks occur specially when they are not occupied. Both children are quite intelligent but irritable. The father suffers from epilepsy. In these cases there have been no convulsions in infancy or epileptic fits.

CASE 4.—A boy, aged 10 years, is suddenly seized with inability to speak and seems to have lost his consciousness, but he says that he knows quite well what is going on. He has suffered from asthma and enuresis, but is quite satisfactory mentally. Both grandmothers had epilepsy.

CASE 5.—A boy, aged four and a half years, has had fits off and on since he was 18 months old. Ever since the first fit he has had attacks of sickness at night occurring with some regularity once a week. He also suffers from enuresis. He was quite well prior to the first fit.

With regard to the relation of vomiting to epilepsy, although an epigastric aura is so common yet actual vomiting as an aura or even prodromal symptom seems to be rare. However, one of these cases, a boy, aged three and a half years, who was having a fit every few months has an attack of vomiting some five hours before each fit, though at other times he is quite free from gastro-intestinal disturbance. The first fit occurred while he was cutting his canine teeth.

CASE 6.—A girl, aged nine and a half years, has a curious spasm in which her mouth and nose are drawn to the left. This occurs about once a week and prior to the spasm she feels as though "there were a lot of sweet stuff on the left side of the tongue." The spasm lasts about a minute; there is no pain or loss of consciousness. These strange attacks first occurred suddenly when she was seven years old. In this case there was no history of convulsions of a definite *petit mal* seizure. The mother had suffered from hysteria.

It is unnecessary to apologize for dwelling on these cases as, according to Dr. J. Hughlings Jackson, "in order to get clear ideas on this subject we must work at convulsions of all sorts from the slightest occasional spasms to the severest general seizures." It has seemed to me that the observation of cases such as these cannot fail to broaden the conception of epilepsy and of the conditions of spontaneous cerebral discharge in general.

Prognosis.—In our cases there was only one in which but a single fit occurred; still it must be remembered that such cases are least likely to come to a hospital for treatment. Then, too, it must be within the experience of many to have met with adults who say that they had convulsions in infancy or while teething but have been entirely free from anything of the kind since. These cases, therefore, give perhaps an exaggerated view of the probable recurrence of the fits, but I have certainly not found the fits less likely to recur which arose in association with some morbid condition than those which occurred spontaneously.

Effects on the mental condition.—About two-thirds of our cases seemed to be quite normal mentally and three were exceptionally intelligent and had particularly good memories. In each of these cases the fits began without any obvious cause and were clearly epileptic.

CASE 1.—A girl, aged eight years, had her first fit when seven years old. She was quite well prior to the attack. They at first recurred once a month, lately once a week, but the intelligence and memory are exceptionally good.

CASE 2.—A girl, aged ten years, had the first fit when three years old; the child was quite well prior to its occurrence. She had three more fits in the course of the next two years and then no more attacks of *grand mal*, but *petit mal* has supervened, two to three attacks occurring per diem. The child is in the sixth standard and the memory is exceptionally good.

The associations of the first fit in these cases of mental impairment were two with digestive disturbances, three with rickets, three with teething, two with traumatism, and eight are in the category of idiopathic epilepsy. There would seem, therefore, to be quite as much chance of a child becoming mentally affected from fits which have begun with a definite cause as from ordinary epilepsy. The frequency of the fits has not in our experience been an important factor in producing the mental impairment. In nearly all these cases the mental deficiency became manifest after only two or three attacks, while some of those described as quite intelligent and in a high standard at school were having fits with considerable frequency.

Effect of the fits on the moral condition of the child.—The bad effects of the fits on the moral condition and general character of the child is much more marked than on its mental condition. In the cases observed only a quarter were unaffected or could be described as morally normal. Of the remainder some were extremely irritable, others were subject to violent outbursts of passion, and others were mischievous and destructive. One child had tried to hang his younger brother; in this case there was mental deficiency and a very bad family history. Of the cases which were morally unaffected by the fits one half had begun as ordinary idiopathic epilepsy, while the other half had arisen in association with some morbid condition.

Effect of alcoholism in the parents.—It does not appear that this has exercised any specially bad influence on the prognosis. In a fourth of the cases the parents (one or both) drank to excess, in another fourth they were teetotallers, while the remaining half were distinctly moderate drinkers. With regard to mental weakness there were twice as many cases among children in whose parents there was no history of alcohol as among those whose parents were drunkards. As regards moral instability a slight preponderance was found in the ranks of the teetotallers and moderate drinkers.

Effect of heredity.—If the influence of alcohol is slight that of heredity is marked and important. In nearly half the cases there was a history of epilepsy, or insanity, or infantile convulsions in one or both parents or grandparents. Among the mentally backward twice as many owned an hereditary history. Of those who were noted as morally normal very few had an hereditary history, so that the bad effect of heredity would seem to be even greater on the moral character than on the mental condition.

Treatment.—One of the first questions which arises in this connexion is whether the child ought to go to school, parents being apt to regard school as a most potent cause of fits. As a general rule there should be no hesitation in allowing the child to attend school, which acts beneficially, by inducing some regularity in the child's life and by affording him definite occupation. There are, however, some cases in which the circumstances of school life seem to produce a constant state of excitement and by such, of course, school must be avoided. Others, again, are highly sensitive and suffer much from being teased and tormented by their companions, so that they too derive no good from school. It need hardly be said that anything like extra work for examinations cannot be indulged in with impunity. The point to be aimed at is that the life should be simple, regular, fully occupied, and free from excitement. I have tried a vegetarian diet with many of these children but am not justified in concluding that they have derived any benefit from it. In a disease such as epilepsy, in which spontaneous arrest may occur, it is almost impossible to arrive at any scientific conclusions as to the uses of drugs. Apart from cases mentally deficient there were few which have not improved under bromides, the fits decreasing in frequency and severity while the general irritability of the child is lessened. No ill-effects seem to result from bromides on the general health, apart from the bromide rash to which some children seem very susceptible and which may occur after quite small doses. One child had been taking bromide for two years, during the last few months the dose had been reduced, and finally at the end of two years stopped altogether as there had been no fit during that time. Three weeks later the patient had an epileptic fit. There was nothing to account for this except the cessation of the drug. The bromide was at once resumed and though, shortly after, she had another fit, which one might regard as due to her not being fully under the influence of the drug, she has subsequently (one year) been free from any further attacks. Where the bromides have failed I have in several instances found borax most efficacious as first suggested by Sir William Gowers.[2] Thus a boy, aged seven years, was having epileptic attacks with great frequency, both *grand mal* and *petit*

[2] Goulstonian Lectures on Epilepsy, 1870.

mal. He had been taking 15 grains of the mixed bromides three times a day without much improvement, when five grains of borax were added to the mixture, after which he was free from fits for 15 months, though just previously to the addition of borax he was having as many as 11 fits in a week. In some instances belladonna was found useful, especially in cases of *petit mal*, but it is very uncertain. The effect of a surgical operation is illustrated by a child who had been having fits once a fortnight, when she had her adenoids removed, after which she remained free from the fits up to the present time (15 months). It is difficult to regard this as merely a coincidence.

Conclusion.—From what has been said in the foregoing it will be easily gathered that we are compelled to take a serious view of all convulsions occurring in infancy, and are not justified in supposing that even a single convulsion in childhood will end with itself and have no further evil influence on the life of the child. For most of these cases which have arisen in connexion with an extrinsic cause have also had a history of heredity or alcoholism in the parents which are both predisposing causes of epilepsy. Even where there is no such history, and if we assume that a peripheral irritation is adequate in itself to produce a convulsion in a perfectly normal brain, yet the mere fact of the convulsions being often repeated makes the brain cease to be normal and creates a distinct pathological basis for the production of epilepsy. What the precise relation of such convulsions to epilepsy may be it is impossible to say, and for this reason it seems unfortunate that infantile convulsions and epilepsy in many text-books on diseases of children are dealt with in different chapters; for the impression is conveyed that there is a much greater difference between these two affections than, in my opinion, the facts seem to warrant. It is true that we find the distinction between the two emphasized by Koplik, who says "epilepsy is a true disease of the nervous system and has nothing in common with, and no demonstrable relationship to, infantile convulsions." Holt also speaks of both affections as being quite distinct, and as a result of his large experience among children we find him saying "in a highly susceptible nervous child a convulsion often means no more than an attack of migraine in an older person." It might, however, be said in passing that many physicians consider epilepsy and migraine to be nearly related. The serious view, however, here taken of infantile convulsions is borne out by Sir William Gowers, who says, "no convulsion in childhood should be looked upon as of little moment, no matter how prominent an exciting cause may be discovered." And again, "even a single fit in childhood indicates the need for careful supervision." Finally, Dr. Hughlings Jackson says, "I find it hard to believe that eccentric irritations of any sort can act on the nervous centres, when they are healthy, so as to produce a convulsion."

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HÆMOCONIA.

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AFTER eliminating the various elements of the blood of which there is more or less accurate knowledge there remain others of which there is no adequate description to be found in literature. These may be grouped into three classes: (1) cell débris; (2) parasites; and (3) hæmoconia.

The earliest reference to these less known elements of the blood is to be found in a paper by Dr. F. W. Mott and Dr. I. Blore,[1] who regarded them as micrococci. These observers describe the bodies thus: "We have examined the blood in 12 cases [of typhus fever] during the pyrexial stage, and in all, moving organisms, like minute screws, have been seen. Occasionally their form can be made out and we consider them to be dumb-bell micrococci undergoing division. Often single cocci could be seen and these were found to measure about half a micro-millimetre. In one case, there were large numbers in the blood after the fever had subsided; but, as a rule, they disappeared on convalescence."

The next observer to mention them was Doehle[2] who found them to be present in the blood of patients suffering from measles, scarlet fever, small-pox, and syphilis. He described them as small spheres (from 0·5 to 1μ) which were either homogeneous or contained a highly refractile nucleus surrounded by a clear zone. They showed movements which, in some instances, could be observed to be due to the action of a flagellum four or five times the length of the body. Occasionally two spheres were inclosed in a common capsule. He also noticed granular and amœboid elements (2·5μ) and ill-defined rod-like protoplasmic bodies possessing small flagella. Pfeiffer[3] describes similar bodies with flagella which he found in the blood of patients suffering from variola and vaccinia.

The next descriptions are those of Müller and Reed. Müller, who gave to these elements the name of "hæmoconia,"[4] states that they are found in the blood as very small granule or cocci-like colourless corpuscles, highly refractile, with a very active molecular movement, which keep their shape under observation for a very long time without any special precautions. He found them in every normal blood in varying numbers and was unable to stain them with osmic acid. Various other observers have considered them as free granules of neutrophile or eosinophile leucocytes or produced by fragmentation of the red blood corpuscles.

Observations made by myself on the blood of patients suffering from the diseases above mentioned and on the blood of patients suffering from typhus fever have demonstrated that there exists in the blood a number of forms which may be grouped into four classes: 1. Protoplasmic bodies containing a number of bright refractile points. There is no difficulty in demonstrating the origin of these as portions of neutrophile cells when stained with Biondi's fluid. They are observed frequently in blood where disintegration of corpuscles is common, as, for example, in hæmorrhagic small-pox, but are not so frequently found in typhus fever. 2. Small round highly refractile bodies from 0·5 to 1μ in diameter and apparently motile. 3. Rod-like bodies, also apparently motile, from 0·5 to 2μ in length. 4. Dumb-bell forms, from 2 to 4μ in length, and apparently motile. With regard to the last three forms, it is probable that they belong to the same class as they are all small, colourless, refractile bodies lying free in the blood plasma and endowed with active tremulous movement. They vary in shape according to the position which they occupy, but for the most part appear as described in Class 2. They are never at rest but dance about in an apparently aimless fashion, disappearing and reappearing with great rapidily as they pass out of focus or come into view again. Under certain optical conditions they appear to possess flagella, but it cannot be stated positively that these organs exist. It is interesting to note that these bodies are also found in the lymph from the early vesicles of small-pox.

In no circumstances has success been attained in staining these elements, even in the lymph of the variola vesicle, where they exist in considerable numbers. They do not stain with osmic acid or with Soudan red, my experience agreeing with that of Müller in this respect. Whether this is due to the fixing it is difficult to say, but they have never been observed except in freshly drawn fluids. All modes of fixing—heat, Hermann's solution, Fleming's solution, and corrosive sublimate—apparently destroy them, or at least cause them to disappear.

In typhus fever these bodies are constantly found in the freshly drawn blood. They are observed throughout the whole course of the disease but appear in greater numbers during the first four or five days. Apparently no prognostic significance can be attached to their presence as they are as frequently observed in fatal as in non-fatal cases. There seems to be no doubt also that these bodies possess no etiological relationship with the disease in which they are present but with regard to their abundance in many cases of typhus fever my experience tallies with that of Dr. Mott and Dr. Blore. It has been suggested that they are derived from the disintegration or fragmentation of leucocytes or red blood corpuscles but the fact that they do not stain is almost sufficient to negative this idea and their mysterious disappearance during the process of fixing renders the collapse of the theory absolute.

Glasgow.

[1] Micro-organisms in Typhus Fever, Brit. Med. Jour., Dec. 1st, 1883.
[2] Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, Band iii., p. 150; Centralblatt für Bakteriologie und Parasitologie, Band xii., p. 906.
[3] Die Protozoen als Krankheitserreger, 1895.
[4] Centralblatt für Allgemeine Pathologie und Pathologische Anatomie, 1896.

AN UNUSUAL CASE OF DIAPHRAGMATIC HERNIA.

BY H. B. G. NEWHAM, M.R.C.S. ENG., L.R.C.P. LOND., D.P.H. CANTAB.

THE patient was a plasterer's labourer; he was a steady, hard-working man with no history of previous illness. On July 11th, 1904, he was engaged in taking down some scaffolding when he overbalanced and fell to the ground, a distance of some 30 feet. He was immediately removed on an ambulance to the David Lewis Northern Hospital and I am enabled, through the courtesy of Dr. T. J. Barry, the house surgeon, under whose care he was, to give a few notes of his condition on admission and also to trace the further progress of his case whilst he was in that institution. When admitted (at 3.30 P.M.) he was found to have sustained a fracture of the left femur through the middle third of the shaft of that bone accompanied by considerable bruising of the chest and abdomen but without signs of any fracture of the ribs. He was also vomiting and in a generally greatly collapsed condition. On examination of the abdomen some dulness was made out in the flanks which shifted on moving the patient. The diagnosis was made of probably ruptured spleen, but owing to the general grave condition of the patient operative interference was out of the question. Minim doses of iodine were successfully employed to control the vomiting and later in the day, owing to the great pain in the abdomen, a hypodermic injection of morphine (a quarter of a grain) with atropine was administered. Towards midnight his condition became more serious, with small pulse, great collapse, and a temperature of 102° F. To meet this two pints of normal saline solution were transfused. This revived him somewhat but an hour later he had a rigor. On the next morning (the 12th) the patient was found to be somewhat improved and the temperature was normal, at which it practically remained throughout his stay in the hospital. The vomiting started again on the 13th and did not cease until towards the evening of the following day in spite of the administration of suitable remedies. On the 18th the patient complained of a good deal of pain in the lower part of the abdomen, accompanied by diarrhœa. Hypodermic injections of morphine (a quarter of a grain) were employed to relieve the pain. Towards evening vomiting again started and persisted for four days in spite of the fact that nothing was given by the mouth, the patient being fed with nutrient enemata. From this time onwards until his discharge on Sept. 16th he progressed fairly favourably, except for some considerable pain over the cardiac region, somewhat increased on taking his food which consisted of milk, bread-and-butter, and milk pudding.

After leaving the hospital he still continued to complain of pain over the cardiac region, which increased on taking food but was unaccompanied by any vomiting. In consequence of this he took very little nourishment and wasted considerably. On Nov. 16th he was suddenly seized with most severe pain in the abdomen, accompanied by dry retching and intense thirst, and was taken by his wife to see a medical man who, on examining him, advised him to go to hospital; this, however, he refused to do and remained in his own home. The medical man gave him some medicine and ordered him castor oil, on taking which he became much worse and, as his wife expressed it, "quite writhed in agony." After application of hot fomentations, however, he became somewhat easier. The symptoms continued more or less severe all the next day and on the 18th he suddenly became unconscious and died in about half an hour. From the 16th, when he was taken ill, till the 18th, when he died, he had no movement of the bowels and the only nourishment taken was a little milk.

Necropsy.—At 11 A.M. on Nov. 20th I performed a post-mortem examination. Externally the body showed a good deal of wasting. Examination of the left leg revealed a fracture through the middle third of the shaft of the femur which had united firmly but with a good deal of thickening round it and with a loss of about two and a half inches in the length of the limb. No signs were found of fracture having occurred in the ribs or other bones. On removing the chest wall, the first organ to present itself to view was the stomach, accompanied by part of the transverse colon, both greatly distended, and the latter showing signs of strangulation. These practically filled the left side of the thorax, except for about ten ounces of blood-stained fluid which were present. The left lung was firmly pressed back against the spinal column; it was quite airless, small, and deeply pigmented. The heart was healthy, though small, and pushed over well to the right of the sternum. The right lung was completely bound down by pleuritic adhesions and was with difficulty removed from the body. The lung on this side was rather smaller than usual and somewhat congested. On examination of the diaphragm an opening slightly to the left of the middle line, with smooth edges and easily admitting the index finger, was found, through which the stomach and intestine had escaped into the thoracic cavity. The liver was of average size and healthy, but somewhat more to the right side than usual. All the other organs, including the brain, were quite healthy.

The hole in the diaphragm appears undoubtedly to have been made at the time of the accident and was probably caused by sudden violent muscular contraction. It seems, however, almost incredible that such a large hernia, which must have existed for some time to produce such pressure symptoms—e.g., compression of lung, &c.—could be compatible with life.

Liverpool.

A CASE OF CONGENITAL HYPERTROPHIC STENOSIS OF THE PYLORUS IN WHICH PYLOROPLASTY WAS UNSUCCESSFULLY PERFORMED.

BY J. RUTHERFORD MORISON, F.R.C.S. ENG. AND EDIN., SURGEON TO THE ROYAL INFIRMARY, NEWCASTLE-ON-TYNE.

AT the present time when so much attention is being paid to the subject of congenital stenosis of the pylorus, and especially when its treatment by operation is prominently before the profession, it seems proper to report every case of surgical intervention irrespectively of the result. I was asked to see the following case with Mr. A. Dryden. He had made a correct diagnosis and, recognising the inefficiency of hygienic and medicinal means, was anxious that an operation should be performed.

The patient was a male infant, seven weeks old. The parents were healthy and there was no history of syphilis. Delivery was assisted by forceps and at birth the child appeared to be quite healthy. He vomited more or less from birth. From the first he was fed on Mellin's food from a screw-stoppered bottle. The bowels were very constipated and they never acted without medicine. Enemata, castor oil, magnesia and alterative powders were successively used, but without any benefit. Up to the age of five weeks the vomiting only occurred as a rule every two or three days, but sometimes more frequently. During the sixth week the child progressively lost flesh. A one-cow milk diet was tried and there was no vomiting for two days; at the end of this time it restarted and occurred regularly every 24 hours between 4 and 5 A.M. In the seventh week the child was very ill; he vomited after every meal and rapidly lost flesh. At the time of the operation he was extremely emaciated and lethargic. The stomach was seen to be distended and was every now and then mapped out by a wave of contraction. No mass could be felt at the pylorus. The condition was so desperate that an immediate operation seemed to offer the only chance of recovery. Shortly before the operation two ounces of normal saline solution were injected under the skin of the chest wall just below the clavicles. Great pains were taken to prevent shock and as little chloroform as possible was used. A median incision above the umbilicus exposed the stomach, which was much dilated and was contracting vigorously. The pylorus looked normal but felt firm and thickened, and this condition extended along the stomach for about half an inch. It was determined to perform pyloroplasty. After opening the stomach it was found that the pylorus would only admit a pair of closed Spencer Wells artery forceps with some difficulty and the pylorus could be felt dilating as they were passed through. The stomach wall at the pyloric ring was very thick and this only gradually passed into the

normal as it was traced towards the body of the organ. The incision was prolonged into the duodenum, which was normal in thickness, until its whole length was about one and a half inches. The operation of pyloroplasty was difficult to perform because of the thickness and friability of the stomach wall. Two rows of sutures were used, the first through all the coats and the second Lembert fashion. The latter were the most difficult to apply, for the line of incision could only with difficulty be tucked in on account of the thickness of the stomach wall. At the end of the operation the line of suture looked very secure; the pylorus was sufficiently wide but was flattened as if the anterior and posterior walls were approximated. The abdominal incision was closed with through-and-through silkworm gut sutures. The operation took about 25 minutes and was attended by very little shock. As soon as the effect of the anæsthetic passed off mouth feeding was begun. Vomiting recommenced and occurred about every half-hour until the patient died 30 hours after the operation.

When examined post mortem the body was found to be very greatly emaciated. The stomach was distended and contained some curdled milk. The suture line was secure and did not allow any leakage. The pylorus was almost occluded, being represented by a vertical slit that would only admit a probe. When the stomach was distended with water none escaped through the pylorus. This was obviously due to blocking by the thick tucked-in pyloric ring. On the anterior wall one and a half inches from the pylorus there was a small excavated ulcer about one-sixteenth of an inch in diameter. It extended to the muscular coat and the mucous membrane immediately surrounding it was infiltrated with blood, so that it looked as if the ulcer had arisen in a blood extravasation; there were no other ulcers. A microscopic examination of the pylorus showed the thickening to be composed entirely of unstriated muscle. The other abdominal viscera were normal; there was no examination of the chest or head.

Newcastle-on-Tyne.

NOTE ON A CASE OF ACUTE CEREBRAL ABSCESS.

BY A. L. WHITEHEAD, M.B., B.S. LOND.,
OPHTHALMIC AND AURAL SURGEON TO THE GENERAL INFIRMARY, LEEDS.

ALTHOUGH chronic cerebral abscess, latent for an indefinite period but ultimately giving rise to acute symptoms, is not uncommon, acute abscess secondary to ear disease is rare.

The case now recorded occurred in a lad, aged 14 years. Apart from some deafness associated with a chronic purulent discharge from both ears for 12 months the boy had enjoyed perfectly good health up to Jan. 26th, 1904. At three in the afternoon of that day he left school complaining of severe headache. The pain grew rapidly more intense and the boy became very irritable, crying out constantly of pain in the head, chiefly in the frontal region, and never referred to one or the other side. During the next 24 hours he vomited twice and became drowsy but resented interference and was at times delirious. When seen by his medical attendant, Dr. P. S. Bird, on the evening of the 27th he could not be roused, looked very ill, and had a temperature of 103° F. He was sent to the hospital the same night and was admitted under my care. His temperature was then 101·8°, his pulse was 120, and his respirations were 32. He was in a state of partial stupor, resented interference, and could not be roused to answer questions, but during the examination constantly complained of pain in the head and repeatedly placed his left hand to the left side of the head. The knee-jerks could not be elicited, but there were free movement of all the limbs and no obvious paralysis of any muscles. The pupils were equal and reacted to light; there was a tendency to divergent strabismus. Both auditory meati were full of pus, the membranæ tympanorum were destroyed, and the tympanic cavities were full of granulation tissue. There were no external signs over the mastoids but apparently some tenderness to pressure on both sides.

Chloroform was administered half an hour after his admission and the left mastoid was explored; very extensive bone disease with much pus, granulation tissue, and débris was found; the dura mater was exposed by the disease and was found to be covered with granulations; it was opened and the overlying temporo-sphenoidal lobe was explored; no abscess was found. A similar operation was performed on the right side with the same negative result. The boy was much collapsed after the operation and was only kept alive by oxygen and strychnine. On the following day, Jan. 28th, he was very restless, his arms and legs moving constantly, and there was some retraction of the neck. The pulse was 120, very feeble, and his temperature was 97°. The loss of consciousness was complete. On the two following days his condition remained the same. Cerebro-spinal fluid drawn off through a lumbar puncture was examined and reported to be perfectly normal. On the 31st while dressing the wound I noticed that the exposed dura mater on the left side looked quite healthy but on the right side was of a dirty grey colour and bulged outwards. A pair of dressing forceps pushed about an inch through the cerebral cortex at once evacuated a considerable quantity of blood-stained semi-purulent fluid, together with fragments of necrosed brain substance. On the following day he was quite rational and talked with his friends. Convalescence was uneventful but slow, being retarded by an attack of pleurisy without effusion. The abscess was drained for three weeks, at first a large quantity of pus coming away daily. At the end of a month the discharge had ceased and the mastoid cavity was grafted on both sides with a good result, ordinary conversation being now heard without any difficulty.

Undoubtedly in this case an acute suppurative cerebritis was present at the time of the exploratory operations but no collection of pus having formed the exploring tube simply passed through the softened brain substance. The subsequent operation evacuated the pus and the necrosed brain matter. The diagnosis was rendered more difficult by the presence of bone disease in both mastoid processes and there were no guiding signs or symptoms to indicate the affected side. Otorrhœa, vomiting, intense headache, and drowsiness passing into coma were the only definite grounds on which a diagnosis of cerebral abscess could be based. The more common symptoms, including constipation, optic neuritis, slow pulse, subnormal temperature, hemiplegia, &c., were entirely absent. In many cases of cerebral abscess, even after the most careful study of all the symptoms, it is often most difficult to arrive at a correct diagnosis and in some cases absolutely impossible with any approach to certainty. In numerous instances a problematical diagnosis between two or even more morbid conditions is the utmost which can be attained. Exploratory operation should be urged in all cases where symptoms are urgent even if signs are somewhat indefinite. To recommend an operation for the relief of cerebral abscess only in those cases in which the diagnosis is certain is to sacrifice many lives which might ultimately be saved.

Leeds.

Medical Societies.

PATHOLOGICAL SOCIETY OF LONDON.

Experiments on the Grafting of the Thymus Gland in Animals.—The Production of Leucocytosis by Colchicine.—Alterations in the Systemic Circulation which tend to produce Engorgement of the Lung Capillaries.

A MEETING of this society was held on Dec. 20th, Dr. F. W. PAVY, Vice-President, being in the chair.

Mr. L. S. DUDGEON and Dr. A. E. RUSSELL communicated a paper on the Effects of Intraperitoneal Grafting of the Thymus of Young Animals into other Animals of the same Species and the same Litter. One kitten, one rabbit, and four puppies were grafted. In three of the puppies the thymus glands from two puppies were inserted into the peritoneal cavity. Control animals were used and in one case (Dog H) the animal was anæsthetised and a negative operation was performed, the abdomen being opened and forceps moved about in the peritoneal cavity. From an examination of the red cells, the hæmoglobin, a differential count of 500 leucocytes, and from the results of the post-mortem examination in the case of the cat, the rabbit, and three of the dogs, it was concluded: (1) that intraperitoneal grafting of thymus gland tissue did not affect the health of the grafted animal; (2) that it did not

produce any marked blood change, certainly no lymphocytosis; (3) that it did not produce any overgrowth of the lymphoid tissue throughout the body; (4) that it produced no change in the bone marrow, liver, or spleen; and (5) that the grafted thymus attached itself to the peritoneum of the intestine, omentum, or abdominal wall, speedily degenerated, became infiltrated with round and polynuclear cells, and finally was represented by a small mass of fibrous and adipose tissue. In the case of two of the dogs marked rickets with severe blood changes occurred but considering that in one of them (Dog A) only one thymus was grafted and that the other (Dog H) had merely been subjected to a negative operation it was felt that the changes were to be attributed rather to the general environment. In both animals the leucocytes diminished—in Dog A from 30,400 to 4140 and in Dog H from 12,360 to 8560. In the grafted animal a distinct lymphocytosis occurred, not in the control. Eosinophilia occurred in both. Large numbers of normoblasts and megaloblasts made their appearance. The presence of macrocytes, microcytes, poikilocytes, and of polychromatophilic degeneration appeared to be very common in young dogs. In these two animals these conditions were more marked after than before the operation. In both dogs at the time when they were killed, ten and 12 weeks respectively after operation, typical rickets was present. In both there was a general enlargement of the glandular and lymphoid tissue throughout the body with the exception of the tonsils. The thymus in each case was very large, weighing 20·65 and 17·8 grammes as compared with the normal, about 2·3 grammes for young dogs. In the control dog, H, the spleen showed marked endothelial cell proliferation with enormous numbers of giant cells. The bone marrow also showed numerous giant cells, myelocytes, megaloblasts, and normoblasts.

Dr. W. E. DIXON read a short paper on the Production of Leucocytosis by Colchicine. He said that colchicine was used as a specific for gout but in what way it acted was quite unknown. In animals it acted as a slow poison and death took place slowly in about two hours. In however large doses the drug was given death took place in the same way quite slowly. An immunity to the drug could be produced in animals by gradually increasing the dose. The effect of colchicine on the leucocytes was very marked. At first a leucopenia was produced which affected mainly the polymorphonuclear leucocytes so that a few hours after the drug had been given the number of these cells in the peripheral circulation fell to a very marked degree and then rose to far beyond the normal. Many of the leucocytes became swollen, the nucleus was indistinct, and the granules were extruded from the cell. These degenerate leucocytes eventually passed to the lung and to the bone marrow. The number of the red corpuscles in the blood was increased to a slight extent and the specific gravity of the blood was also increased. The effect of the drug lasted about 24 hours. He next tried the effect of colchicine on the bone marrow. He found that in young rabbits the bone marrow became hyperæmic and filled with a form of corpuscle which was probably the polymorphonuclear leucocyte of the peripheral circulation. The fat of the marrow was degenerated.—Mr. DUDGEON pointed out that it was an easy matter to extrude the granules outside the cells by pressure on the cover-slip. He stated that the eosinophile cells very rapidly disappeared after injection of pyogenic organisms and that the amphophilic cells which were peculiar to rabbits disappeared after injections of staphylococci.—Dr. J. FAWCETT asked whether any observations had been made in man with regard to the leucocytosis after the administration of colchicine.—Dr. H. BATTY SHAW said that colchicine seemed to act as a stimulant to the bone marrow and if this was so then an increased mitosis should be present. He asked whether Dr. Dixon had observed such a mitosis.—Dr. W. S. LAZARUS-BARLOW asked in which bones the marrow had been examined and in which part of the bone. He pointed out that the marrow in the bone differed to a very marked degree not only in different bones but also in different parts of the same bone.—Dr. DIXON replied that observations on the action of colchicine in man had been undertaken but were at present incomplete. An increased mitosis had been observed in the cells of the bone marrow.

Dr. T. G. BRODIE and Dr. DIXON made a communication on the Alterations in the Systemic Circulation which tend to produce Engorgement of the Lung Capillaries. The filling of the lungs with blood was produced equally by the obstruction of the left side of the heart or by an increased output from the right side of the heart. With cardiac inhibition the volume of blood in the lungs was diminished; with cardiac acceleration the volume of blood in the lungs was increased. Inhibition of the heart caused a fall in the arterial pressure and in the pulmonary artery, while the venous pressure was raised. The volume of blood in the lungs was diminished, the blood accumulating probably in the left auricle. Cardiac acceleration sent up the pulmonary blood pressure with a fall in the auricular pressure both on the right side and on the left. The changes of cardiac condition produced more marked effect on alteration of the volume of blood in the lung than any other interference with the vascular system. Another way in which the pulmonary pressure was altered was by the interference with the supply of blood to the right side of the heart. An injection of a small quantity of blood into the portal vein gave rise to a very marked rise of blood pressure. The effect produced was simultaneous all through the blood system. The circulation of the lung was quite passive and behaved according to the amount of blood put into it by the right side of the heart or removed from it by the left side of the heart. There was, however, no evidence that the lung could act as a reservoir. With regard to the action of adrenalin, which had been recommended for the treatment of hæmoptysis, he said that there was no evidence that the drug produced any constriction of the vessels of the lung. Adrenalin acted in two ways: first, by constricting the peripheral circulation and, secondly, by stimulating the heart. The volume of blood in the lung was thus increased and it was therefore a drug which should not be used in cases of hæmoptysis. Ergot produced a rise in the pulmonary blood pressure and increased the volume of blood in the lungs. Digitalis produced a constriction of the systemic vessels, a rise in the pulmonary pressure, and an increase in the volume of blood in the lungs.—Dr. ALEXANDER MORISON referred to the diminution of the blood pressure produced by venesection. He asked whether the withdrawal of a small quantity of blood would diminish the volume of blood in the lungs as the injection of a small quantity of blood into the portal circulation seemed to increase the volume of blood in the lung in the experiments related by Dr. Brodie.—Dr. BRODIE replied.

LIVERPOOL MEDICAL INSTITUTION.

Chancre of the Nostril.—Actinomycosis.—Constriction of the Ureter.—Perineal Prostatectomy.—Sarcoma of the Femur.

A MEETING of this society was held on Dec. 15th, Dr. J. R. LOGAN, Vice-President, being in the chair.

Dr. J. MIDDLEMASS HUNT showed a case of Primary Syphilitic Infection of the Nostril. The chancre was situated on the left side of the septal cartilage. The patient, a youth, aged 17 years, had suffered from one-sided nasal obstruction and discharge for two months. There was considerable glandular enlargement on the affected side and within the last fortnight a characteristic rash had appeared on the face and body. No history could be obtained as to the source or mode of infection.

Mr. D. DOUGLAS-CRAWFORD read a note on two cases of Actinomycosis. The first case was that of a ship's surgeon, the skin of the flank being the affected area. In the second case the patient was a butcher and the submaxillary region was the part infected. Excision was performed in both cases with satisfactory results.

Mr. K. W. MONSARRAT read a note on Constriction of the Ureter. After enumerating the different types of constriction he related three cases illustrative of the condition. The first was a case of true stricture of the pelvic ureter which gave rise to symptoms mistaken for those of appendicitis; a successful result was effected by dilatation of the ureter from the bladder. The second case was one of hydronephrosis in which the ureter was flattened against, and bound by adhesions to, the hydronephrotic sac; a plastic operation upon the ureter was successfully performed. In the third case there was pyonephrosis with stricture of the ureter at its junction with the renal pelvis. Mr. Monsarrat suggested that in the etiology of similar cases of primary pyelitis of obscure origin renal stasis caused by ureteral obstruction probably played an important part.—Mr. GEORGE G. HAMILTON, Mr. W. RUSHTON PARKER, Mr. R. A. BICKERSTETH, Dr. R. J. M. BUCHANAN, Mr. F. T. PAUL,

Dr. N. E. ROBERTS, Dr. W. ALEXANDER, Dr. T. B. GRIMSDALE, Mr. G. P. NEWBOLT, Mr. T. C. LITLER JONES, and Mr. DAMER HARRISSON took part in the discussion.

Mr. RUSHTON PARKER read a note on Perineal Prostatectomy. He practised the operation as described by Dr. Parker Syms at the Manchester meeting of the British Medical Association in 1902. He had thus operated upon eight cases between December, 1902, and November, 1904. The ages of the patients varied from 59 to 76 years, five of them being over 70 years of age. The prostates removed varied in weight from three-eighths to three and five-eighths of an ounce. All the patients had been unable to pass urine without the use of a catheter before operation and all had subsequently become enabled to hold and to pass urine comfortably, except one case which terminated fatally. The after-treatment consisted in drainage of the bladder by means of a long tube for from two to five days and plugging of the prostatic gap for 24 hours with strips of gutta-percha tissue in preference to gauze. The gutta-percha strips could be removed without disturbing the patient or causing hæmorrhage. A catheter was passed daily and the bladder was washed out.—Dr. ALEXANDER, Mr. DOUGLAS-CRAWFORD, and Mr. NEWBOLT took part in the discussion.

Mr. C. THURSTAN HOLLAND read a note based on a case of Central Round-celled Sarcoma of the Upper End of the Femur. The patient was under the care of Mr. Newbolt at the Royal Southern Hospital. A series of radiographs were shown illustrating various diseases of bone bearing on the subject: the x-ray appearances of central round-celled sarcoma, myeloid sarcoma, periosteal sarcoma, abscess of bone, and so on, were discussed. The fact that operations for malignant bone disease were so frequently followed by return of the growth was considered to be probably due to the condition being diagnosed too late. By the help of a good radiographic examination suspicion might be cleared up very much earlier in the history of these cases and thus enable better results to be obtained by means of operative treatment.—Mr. NEWBOLT described the clinical history of the case. He had performed amputation at the hip-joint but the patient died on the day following the operation.—Mr. BICKERSTETH, Mr. PARKER, Dr. ALEXANDER, and Mr. HARRISSON took part in the discussion.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF SURGERY.

Radical Treatment of Hernia.—Intestinal Obstruction.

A MEETING of this section was held on Dec. 2nd, Mr. ARTHUR CHANCE, the President, being in the chair.

Mr. EDWARD H. TAYLOR read a paper on a New Method of Procedure for the Radical Cure of Inguinal and Femoral Herniæ. With the patient in the Trendelenburg position a vertical incision about four inches in length was made midway between the middle line and the outer border of the rectus muscle in its lower part. The superficial tissues and the rectus sheath having been divided the outer lip of the divided sheath was raised and the corresponding border of the muscle was defined and drawn inwards. The transversalis fascia was then divided and the extraperitoneal fat was exposed. The next step consisted in fully retracting the outer margin of the wound towards Poupart's ligament and identifying the neck of the hernia. By seizing the parietal peritoneum close up to the internal abdominal ring with the finger and thumb, the sac was drawn up to some extent out of the inguinal canal and opened, after which a finger was introduced into its interior to act as a guide while it was being separated from the structures of the cord. A ligature or purse-string suture was then applied to the neck of the sac and the fundus was cut away. The inguinal canal and the two rings were now explored by the finger, the structures of the cord were identified, and the deep epigastric vessels were held aside. By means of special needles in handles—modifications of the ordinary aneurysm needle with a slot at one side opening into the eye—a series of silk sutures (No. 6 size) was passed so as to connect the conjoined tendon and the transversalis muscle with Poupart's ligament, just enough space being left to allow the structures of the cord to pass without being unduly compressed. The rectus muscle now resumed its normal position, but for greater security its outer border was connected to the deep aspect of the transversalis muscle by a few interrupted sutures. Finally, the rectus sheath was closed in front by interrupted sutures also, and the skin margins were approximated by a continuous subcuticular suture of silkworm gut. Should the external abdominal ring be unduly patulous it might be readily exposed before closing the wound by drawing aside or reflecting the overlying tissues and its dimensions reduced by one or two sutures. In the case of femoral hernia the steps of the operation corresponded to the above up to the point at which the femoral ring was exposed. The sac was isolated as already described, ligatured at its neck, and its fundus cut away. The closure of the femoral ring was then effected. Two sutures generally sufficed for this purpose. Each passed through the conjoined tendon and Poupart's ligament in front, beneath Cooper's ligament behind. In some cases it was advisable to pass them through two holes previously drilled in the pubic bone. The operation was best suited for large, well-developed inguinal herniæ in which the inguinal canal had undergone marked changes in size and direction. The sutures in the conjoined tendon should not be tied too tightly and the parts should be kept at absolute rest for at least a fortnight. Mr. Taylor pointed out that a somewhat similar method for occluding the femoral ring had been described by Mr. Mayo Robson in the "Year-book of Treatment" (1904) but, nevertheless, it differed from his in certain important particulars.—Mr. G. JAMESON JOHNSTON expressed himself in favour of Bassini's operation, as he considered it the simplest, the most scientific, and the easiest. He regarded the objection to dividing the aponeurosis of the external oblique in this operation as more or less theoretical. Mr. Taylor's operation would probably be a good one in old herniæ in which the internal abdominal ring approached the middle line.—Mr. T. E. GORDON said that, in his opinion, there was no one method of operation for hernia and Mr. Taylor's method was not suitable in the case of a congenital hernia in a young child.

Mr. GORDON read an account of a case of Acute Intestinal Obstruction from a Gall-stone. The patient was a woman, aged 73 years. An operation was performed on August 11th and she was able to leave her bed about a fortnight afterwards.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 9th, Sir Patrick Manson being in the chair.—Dr. G. H. F. Nuttall read a paper on Ticks and Tick-transmitted Diseases. Ticks, he said, were a large order of arachnidæ, all blood-sucking parasites, attacking most mammalia and birds, as well as some reptiles and insects. They were provided with a powerful haustellum for sucking blood and eight legs armed with sharp claws, the larva having but six. Their bites gave rise to ill-understood effects, often grave and even fatal, but their chief interest lay in the fact that they were the intermediary hosts of a group of hæmatozoa known as piroplasmata and of one spirochæte which by attacking and destroying the red blood cells induced certain epizootic diseases attended by fever, anæmia, hæmoglobinuria, and icterus, the ravages of which had in many districts assumed alarming proportions. Such were the Texas fever or redwater fever in America and Queensland and the Rhodesian fever in South Africa among cattle with similar diseases of horses, sheep, and dogs elsewhere, and one of poultry in Brazil. The males and the immature forms were not so voracious as the perfect female which when gorged with blood was distended to a hundred times its natural size. It laid enormous numbers of eggs, sometimes as many as 3000, on the ground, whence the young larvæ climbed up the stems of grass or shrubs to await the passing of an animal suited for their purpose. If the meeting took place within a reasonable time they transferred themselves to it, attaching themselves to its skin by claws and rostrum, otherwise they died from starvation while waiting. Some species, such as those of Texas fever, underwent their subsequent transformations into pupa and imago on the same animal which they did not leave until the female was ready to lay its eggs. Others, such as that of the dog, dropped off after gorging themselves, undergoing all their changes on the earth, and required three hosts in succession. The risk of dying for want of a prey was thus increased threefold, very few reaching maturity, whereas in the case of Texas fever large areas of the hide might be actually hidden by adherent ticks in every stage of development. Those attacking cattle were the

rhipicephalus annulatus in America, rhipicephalus australis in Queensland and Africa, and rhipicephalus appendiculatus in Rhodesia and the Cape. Sheep were attacked in parts of Europe by the rhipicephalus bursa, and in Africa by the ambiyomma hebræum (Koch). Dogs were attacked by the hæmaphysalis Leachii in South Africa and by a dermatocentor in Europe. The argas persicus was believed to be the agent in a fever attacking man in Persia and others in Africa and in the Rocky Mountains. Those attacking horses and asses in Africa, South America, and parts of Europe were not as yet determined. A peculiar disease of fowls in Brazil was caused by the tick called argas miniatus, the specific organism being the spirochæte Marchouxi, a species closely resembling the spirochæta Obermeieri found in the blood of patients suffering from relapsing fever. In all the others the parasite was one or other species of piroplasma. A female sucking the blood of an infected animal laid infected eggs, but the infected larva did not always communicate the disease, and a larva or pupa infected from an animal might or might not be infective before reaching the imago stage, different species behaving differently. The adult tick was very long lived and the contained piroplasma lived as long as its host, having been found after the tick had been starved for many months. Little was known of the life-history of the piroplasma, though Dr. Nuttall had noticed peculiar extracellular bodies bearing some resemblance to the gametes of the malarial parasites. There was an incubation period of from eight to ten days in Texas and Rhodesian fever and of two or three weeks in that of dogs. If recovery took place a kind of immunity was left, the piroplasmata persisting in the blood without producing any symptoms, though the blood was infective to healthy animals when injected directly or through the medium of ticks and though some intercurrent disease or exposure to depressing influences might bring about a recurrence of the original attack. Immunised or "salted" cattle were therefore a source of danger to others. Texas and Rhodesian fevers were not mutually protective, the piroplasma parvum of the latter being distinct from the piroplasma trigeminum of the former or from the several species that were included under that name, but mixed infections with two or more specific forms were not infrequent. The life-history of the spirochæte was not known but Schaudinn had recently described a spirochæte developing out of a trypanosoma which was itself a phase of the halteridium, an endoglobular parasite of birds. The facts that certain pastures were specially infective so that a mere fence might separate the infected from the clean fields, that stalled cattle escaped while those out on pastures suffered, and that sporting dogs were attacked while those in towns were not, were easily explained by the habits of the tick. Attempts at immunisation had been failures and the only hope lay in the extermination of the tick. Insecticide dips were useful in reducing their numbers; burning the grass on infected pastures had been advocated; quarantine should certainly be enforced and horses only should be pastured for two years on fields where cattle had suffered or *vice versâ* so as to starve out their respective ticks. Summarising the geographical distribution he would say that bovine piroplasmosis (Texas or redwater fever) occurred in the United States, West Indies, Venezuela, Uruguay, Paraguay, Brazil, Queensland, various parts of Europe, Africa, India, China, and the Philippine Islands. Rhodesian fever (bovine) occurred in Rhodesia and South-east Africa, and apparently also in Transcaucasia. Ovine piroplasmosis was met with in Roumania, in Italy, in France, in the West Indies, in the United States of America, and in South Africa. Equine piroplasmosis occurred in Germany, in South Africa, in Madagascar, and in Venezuela. Canine piroplasmosis occurred in France, in Italy, in North and South Africa, and in India, while the spirochætal fever of fowls seemed to be limited to Brazil and the Argentine Republic.—Sir Patrick Manson said that he was particularly struck with Dr. Nuttall's reference to the conditions under which piroplasmosis recurred as illustrating the etiology of blackwater fever, which might be a disease of this kind, the malarial attack or the large dose of quinine acting simply as an exciting cause. He also made an allusion to the karapatti disease of Zambesi, which was spread by the kufu, a species of tick, and which was peculiar to man. It and blackwater fever were probably human piroplasmoses.—Dr. G. C. Lowe said that a friend of his had demonstrated a spirillum in karapatti disease. Rhodesian fever was spreading southwards and killing in some districts 90 per cent. of the cattle.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 9th, Dr. A. Bronner being in the chair.—Mr. R. Lawford Knaggs read a paper on two cases of Bullet Wound of the Brain, in both of which the bullets had penetrated to a considerable depth and were left *in situ*. In the first case no ill-effects had been noted during the seven years that had since elapsed. In the second serious symptoms developed a fortnight after the injury and a large area of bone was removed in the nearest position to the bullet. The dura mater was crucially incised and gold foil was placed over the protruding brain. The flap was replaced. Rapid subsidence of symptoms followed and the patient left the hospital quite well. This was 11 months ago and no further trouble had occurred.—Dr. T. Wardrop Griffith showed two brothers with the hereditary form of Spastic Paraplegia. There were no sensory phenomena. Babinski's sign was well marked in one patient, while the other had incipient bulbar symptoms and showed a tendency when walking to stagger to one side. This appeared to be of possible interest in view of the statement which had been made that in such cases the sclerotic changes were not confined to the lateral column but affected the ascending and descending cerebellar tracts.—Dr. Griffith also commented on a case of Infective Endocarditis in which the lesion was confined to the Pulmonary Valve. This presented a large fungating mass almost completely occluding the orifice and leading to aneurysmal dilatation of the left wall of the artery. The primary lesion was probably an acute pleurisy with scanty formation of pus which had come on with great suddenness. There was practically a total absence of the interauricular septum and as previously to the occlusion of the pulmonary artery by the endocarditic granulations the flow of the blood was probably from the left auricle to the right the pleura would in consequence of this septal deficiency be placed more certainly within the gathering ground of the right ventricle and the valves of the right side of the heart exposed to greater risk of infection.—Mr. A. L. Whitehead, Dr. A. G. Barrs, Dr. E. F. Trevelyan, Dr. A. S. F. Grünbaum, Dr. B. Pierce, and Dr. Allan discussed the papers.—Dr. Griffith replied.—Mr. Whitehead read a paper on Nasal Disease as a Cause of Headache. The various conditions of the nose giving rise to headache were mentioned, the differential diagnosis was indicated, and the following conclusions were arrived at: (1) Headache was rarely if ever caused by any disease or deformity of the nose which did not give rise to discharge or obstruction to normal nasal respiration; (2) in all cases of persistent headache the nose should be as carefully examined as the urine, the teeth, and the eyes, since in some instances the nasal symptoms might be ignored by the patient; (3) suppuration in the nose and obstruction to nasal respiration, constant or intermittent, must be thoroughly treated; (4) small spurs, deviations, and hypertrophies not causing obstruction should be left alone; and (5) if the middle turbinate bone was enlarged and pressing upon the septum, and other causes of headache could be excluded, partial or complete removal should be advised, since in many such cases complete relief was given.—Dr. Trevelyan, Dr. Grünbaum, and Dr. Bronner discussed the paper and Mr. Whitehead replied.—Dr. J. B. Hellier showed a Uterine Cystic Myoma weighing 12½ pounds.—Mr. E. H. Hackett showed a case of Congenital Buphthalmos.—Mr. Whitehead exhibited a Skiagram of a Piece of Steel in the Vitreous; also the steel which was removed by the giant magnet.—Dr. Trevelyan showed: (1) Two cases of Epilepsy treated by trephining; (2) a specimen of Acute Tuberculosis limited to one pleura, from a fatal case of alcoholic paralysis; and (3) a Small Concretion coughed up by a patient with pulmonary and laryngeal tuberculosis and in whom the condition seemed to be healing.—Dr. L. A. Rowden showed: (1) a case of Lupus Erythematosus under treatment with the x rays with marked improvement; (2) a case of Lupus Vulgaris under treatment with the x rays; (3) Hyperæmia of the Hands and Face (? diagnosis); and (4) some more X-ray Graphs.—Dr. Grünbaum showed a specimen of Heterotype Mitosis in the Ovary.—Mr. B. G. A. Moynihan showed: (1) Specimens from several cases of Colectomy and Proctectomy; and (2) some New Surgical Instruments.—Dr. Allan exhibited: (1) a Humerus showing the supra-condyloid process; (2) a Heart showing Pericarditis (Tuberculous); (3) a Dilated Aorta from a syphilitic subject; (4) an Old Hæmatocele; (5) a Urethral Calculus; and (6) Granular Contracted Kidneys.—Mr. H. Littlewood showed:

(1) A Pharyngeal Polypus; and (2) a case of Complete Synostosis of the Elbow-joint.—Dr. W. H. M. Telling showed a case of Multiple Congenital Syphilitic Synovitis in a child.—Dr. Barrs showed a case of Crural Monoplegia.

FORFARSHIRE MEDICAL ASSOCIATION.—A meeting of this society was held in the School of Medicine, Dundee, on Dec. 8th, Dr. William Kinnear being in the chair.—Mr. D. M. Greig showed a boy, aged three and a half years, with Double Rachitic Coxa Vara. Though presenting few signs of rickets other than slight thickening at the wrists, beading of the ribs, and prominent abdomen, the changes in the trochanters were well marked. The chief points demonstrated were an abnormal amount of flexion at the hips, with limited extension and abduction, and great increase of adduction. He sat always in the sartorial position, and when laid flat extension of the limbs caused arching of the back. When extension was complete the patellæ looked outwards and even slightly backwards. Any attempt at abduction caused the pelvis to be tilted. The amount of adduction and flexion was so great that his legs could be bent behind his back and his feet brought round his neck. A foot could also be easily put into the axilla of the opposite side.—Dr. G. W. Miller, Professor David MacEwan, Professor J. A. C. Kynoch, and Professor L. R. Sutherland exhibited a variety of other cases and specimens.—Dr. J. Macfie read a paper on the Utility and Futility of Sanatoriums. The paper was based upon the treatment of 500 cases in sanatoriums, with special reference to the sanatorium at Auchterhouse which was the only one of its kind in Scotland where poor and middle-class patients could be treated for a moderate charge, £2 2s. per week being the maximum. He was convinced that more cases of pulmonary tuberculosis could be cured by sanatorium treatment than in any other way. Open-air treatment alone was not sufficient but very careful regulation of diet, exercise, and sleep under constant supervision was necessary and it was not possible to have this in patients' homes. The most essential thing was to get the cases in the early stages. His experience of the treatment of poor patients was most disappointing, as in every case they relapsed on returning home. This arose firstly from too short a stay in the sanatorium and secondly from want of supervision on their return home and lack of means to maintain themselves. The results of treatment of the middle classes were more satisfactory, as they were able to continue the treatment at home and in most cases a permanent recovery was possible. Sanatoriums for the poor in order to effect permanent results required: (1) machinery to collect and to select suitable cases; (2) endowments so that patients could be kept until beyond danger of retrogression; and (3) extramural workers to look after the houses and families of the patients during treatment. He considered overfeeding essential to recovery. Patients must be induced to eat at least 50 per cent. more food than a healthy person would require under similar surroundings. In sanatoriums the larger the windows the better and in the bedrooms the bed could not be too near the window, so that a full, free draught of air could play across the patient's face. Any climate was good except a relaxing one; sunshine was not essential for success in treatment.—The Secretary read a paper contributed by Dr. A. R. Urquhart in which he gave his experience of the treatment of phthisis in the insane in sanatoriums. During 17 years between 1880 and 1897 ten cases of phthisis were under treatment in Murray's Asylum, all of which except one were diagnosed on admission. In 1897 a very bad case of phthisis was admitted which was responsible for the development of the disease in six other patients. It was then decided to build special sanatoriums for the treatment of phthisical patients and the results had been most satisfactory and encouraging. Dr. Urquhart did not consider that the use of tuberculin as an aid to diagnosis in asylum practice was warrantable.—Dr. J. S. Y. Rogers gave an account of his experience of the open-air treatment at Davos Platz, in Switzerland, where the patients were allowed to take plenty of exercise (except in cases of hæmoptysis) and to eat plenty of butcher's meat. He discussed open-air treatment in patients' houses and said that one great fault was having too much furniture in the rooms.—Mr. D. M. Greig, Dr. G. W. Miller, Mr. George Halley, and others also took part in the discussion.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held on Dec. 8th, Mr. W. Bowen Davies (Llandrindod Wells), the President, being in the chair.—Mr. N. Hay Forbes (Tunbridge Wells) read a paper entitled "Observations on the Climate and Health Resorts of Scotland." Mr. Forbes, in advocating the claims of the health resorts of Scotland, first sketched in outline the characters of the insular climate of Great Britain, dealing subsequently in detail with the general climate of North Britain and especially dwelling on the great influence of the Atlantic Ocean on the west coast both as regards sea and air temperatures as well as rainfall; he then described the geological structure and land formation of the three great natural divisions of the country—i.e., the Highlands, the Central Lowlands, and the Southern Uplands—followed by some interesting notes from the last issued report of the Registrar-General for Scotland on weather and its influence on mortality, concluding his essay by an estimate of such health-restoring localities as Braemar, Kingussie, Nairn, Forres, Strathpeffer, Blair-Atholl, Pitlochry, the Trossachs district, Crieff, Moffatt, Bridge-of-Allan, Rothesay, Oban, Comrie, and several other such watering places.—Dr. R. Fortescue Fox (Strathpeffer) called attention to the medical value of the climate of the north-east of Scotland—the high ground and sea coast from the Dee to Dornoch. It was of special value for neurasthenia and the disorders of middle life. The cool summers with longer days, the pure air, and the richness of solar radiation were chief elements in the Scottish climate. The closure of the Ben Nevis Observatory was a serious loss to climatology.—Dr. E. Symes-Thompson showed that the antiquity of the geological formation in Scotland accounted for the fact that the mountain ranges were lower than those of the Alps or the Pyrenees. Many of the Scotch mountains had lost by denudation some 10,000 or 12,000 feet of elevation.—Mr. Ward Humphreys (Falmouth) questioned the wisdom of always estimating the value of health resorts merely from the point of view of isotherms and isobars, because he thought that mere temperature as recorded by the thermometer and barometric readings were not always safe guides in matters of health, for there was a something in sunshine which affected the human body more than it affected the recording instruments. Mr. Forbes's paper had such a wealth of information that be hoped Dr. Symes-Thompson would see that in any future edition of the book issued by the Royal Medical and Chirurgical Society Scotland should find a place.—Dr. Leonard L. B. Williams said that the amount of the ground covered by the paper was so large that it was impossible to form any estimate of it from the mere hearing but he had no doubt that it would prove a valuable contribution to their knowledge of the climate and health resorts north of the Tweed.—Dr. W. Black Jones (Llangammarch Wells) said that the western coast had a somewhat higher temperature than the eastern, this, as Mr. Forbes had mentioned, being mainly due to the action of the Gulf Stream. The rainfall on the former coast was also higher than that on the latter and as heat was liberated by condensation of the clouds a portion of this rise in temperature would be due to this cause. The mean annual temperature of Ireland was raised two degrees by the heavy rainfall in that country and it would be interesting to know if any similar estimate had been made in the case of Scotland.—Dr. W. Moxon (Matlock) considered that the British Isles possessed all kinds of climates suitable for all kinds of persons and for all seasons of the year. The chief reasons why a continuous migration to the continent went on of those in search of health were the difficulties of access to British health resorts and the want of enterprise on the part of municipal authorities in charge of them. He suggested that some means of acquainting the travelling public with the virtues of our own health resorts should be undertaken by the society.—Mr. Forbes replied.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held at the Medical Institute, Birmingham, on Dec. 7th, Dr. E. W. Wood White, the President, being in the chair.—Dr. Walter R. Jordan showed a case of Congenital Hypertrophy of the Limbs in a child, aged two years. The mother had noticed, when the child was three weeks old, that the left arm was larger than the right and two weeks later that the right leg was larger than the left. The child had never been ill and was well developed. The affected limbs were much enlarged, the increase being apparently in the subcutaneous tissue. There was no pitting on pressure. A skiagram showed no trace of enlargement of bone. The right buttock and the right side of the vulva shared in the hypertrophy. Dr. Jordan remarked that there were several cases on record of this "giant growth" in the upper and lower limbs of the same side—hemi-hypertrophy—

and of one limb only; but he had not found any record of "crossed" hypertrophy.—Dr. O. J. Kauffmann showed two specimens of Cerebral Tumour and one of Cerebral Compression.—Mr. A. W. Nuthall showed a specimen of Double Hydronephrosis, Dilated Ureters, and Hypertrophy of the Bladder, due to a large vesical calculus, taken from a boy, aged eight years, who presented no symptoms till 36 hours before death when he had a rigor, death subsequently occurring from uræmia.—Mr. Nuthall also showed a specimen consisting of the Bladder and Kidneys with large Branched Calculi in the Pelvis of each Kidney, the right kidney being markedly hydronephrotic and the left pyonephrotic. Dilatation of the ureters and chronic cystitis were present. The patient was a girl, aged 11 years, who had suffered from pain in the back and loins for four years and in whom hæmaturia developed seven weeks before death. Great pain was present for three days before death.—Dr. T. Stacey Wilson read a paper on the Successful Treatment of Aneurysm by Iodide of Potassium.

BRADFORD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Dec. 13th.—Mr. C. F. M. Althorp showed: (1) A case of Gastric Perforation; (2) a case of Hydatid of the Liver, subphrenic abscess, empyema; and (3) a case of Gastric Perforation, subphrenic abscess, empyema.—Dr. R. H. Crowley showed: (1) A case of Scleroderma; (2) a case of Splenomegaly; and (3) a case of Omental New Growth.—Dr. A. Bronner showed: (1) a case of Cerebral Tumour with intense Papillitis and Normal Vision; (2) a case of Disease of the Frontal Sinus simulating Orbital Cyst; (3) a Piece of Steel removed from the Vitreous by the Giant Magnet; and (4) a case of Mastoid Disease in an Infant with Facial Paralysis simulating Parotitis.—Mr. J. Basil Hall showed a case of Paralysis following Dislocation of the Humerus.—Dr. Little showed some Eye and other cases.—Mr. W. H. Horrocks showed: (1) Two cases of Elephantiasis of the Leg treated by ligature of the external iliac artery; and (2) a case of Tumour of the Jaw.—Dr. T. Jason Wood showed: (1) a case of Popliteal Aneurysm treated by excision of the sac; (2) a case of Sarcoma of the Head treated by the x rays; (3) a patient after Amputation of the Arm and Scapula; and (4) a case of Resection of the Rectum, ten months after.—Mr. Ward Smith exhibited some cases treated by the x rays.—Mr. B. H. Slater showed: (1) a case of Lupus of the Face cured by thyroid extract; (2) a patient 20 months after Complete Excision of the Tongue for Epithelioma; (3) a case of "Precancerous Stage" of the Tongue; (4) a case of Intestinal Obstruction after Appendectomy; and (5) a case of Excision of the Lower Lip for Epithelioma.—Dr. Mitchell showed two cases of Xeroderma.—Dr. Oliver showed a case of Xerosis of the Conjunctiva.

GLASGOW PATHOLOGICAL AND CLINICAL SOCIETY.—A meeting of this society was held on Dec. 12th, Professor R. Muir, the President, being in the chair.—Dr. A. N. McGregor showed a large Ovarian Cyst torsion of the pedicle of which had given rise to symptoms simulating rupture of an extra-uterine pregnancy. The patient gave a history which indicated pregnancy of four months' duration and at the operation the uterus was found to be correspondingly enlarged.—Mr. A. E. Maylard showed a case of Cervical Fistula communicating with the pharynx. In its formation it simulated the opening of a tuberculous abscess, but on examination it was found that the finger readily passed into the pharynx. Neither food nor fluid taken by the mouth escaped from the sinus. Mr. Maylard regarded it as most probably a branchial fistula.—Dr. James A. Adams showed a boy in whom Excision of Half of the Lower Jaw was performed on account of a tumour of about the size of a duck's egg, which had distended the whole ramus on the right side.—Dr. J. Crawford Renton showed two Enlarged Prostates removed by the suprapubic method.—Dr. Henry Rutherfurd showed a Tumour of the Cæcum the clinical course of which had simulated appendicitis. The patient was now doing well.

ROYAL MEDICAL SOCIETY OF EDINBURGH.—A meeting of this society was held on Dec. 9th.—Dr. R. W. Johnstone delivered his presidential address on the Aspects and Treatment of Criminology. He defined a crime as an offence against the laws of society and after dividing criminals into a habitual and an occasional class he discussed the mental derangement of the habitual group, stating that alcoholism was not the cause of this but rather its result. He next treated the question of the effects of environment and touched upon those of inheritance and finally, having described the anatomy of the habitual class, he concluded with some suggestions as to their treatment.—Dr. C. J. Shaw proposed, and Dr. J. E. Kirkness seconded, a hearty vote of thanks.—Mr. A. W. Neil then read a dissertation on Appendicitis. He first discussed the histology and pathology of the appendix and then, after going into the various theories as to the causation of appendicitis, he treated of the various extensions and complications which might arise and went into the problems which arose in diagnosing the condition. He concluded by a review of the various lines of treatment, rather leaning to the American views.—Dr. D. C. L. Fitzwilliams proposed, and Mr. T. B. Johnston seconded, a hearty vote of thanks."

Reviews and Notices of Books.

Text-book of Human Physiology, including Histology and Microscopical Anatomy, with Special Reference to the Practice of Medicine. By Dr. L. LANDOIS. Tenth edition, edited by A. P. BRUBAKER, Philadelphia, and translated by A. A. ESHNER, Philadelphia. With 394 illustrations. London: Charles Griffin and Co., Limited. 1904. Pp. 1027.

THIS work is a translation without additions from the last German edition which was written some time before the death of Professor Landois. The English version by Dr. W. Stirling has been out of print for some years. We are glad once again to see a new edition of this text-book, for there is no other work of its kind in the English language which deals with the normal physiological processes so as to show where the physiological merges into the pathological, and how the facts of pathology are to be explained by, and how they are in reality of the same essence as, those of physiology. Physiology and pathology are only two variations of the same processes. Above all the book will be useful to practitioners of medicine and to clinicians, while students reading for the higher examinations will find it a trustworthy guide to the fundamental facts of physiology and histology and an encyclopædia of reference as well as an exposition of the latest discoveries and theories of physiology. Moreover, it contains admirably terse summaries of the historical development of each subject and likewise a summary of the comparative physiology of the animal kingdom. This short introduction will serve to show how wide is the scope of the subject and how it is treated from all points of view that can be useful alike to the practitioner, the student, and, to a less degree, to the historian.

Dealing with the present edition it is substantially on the same lines as the earliest published with the latest information added to keep the work abreast of advances in the several sections. Perhaps it is because the subject of leucocytes is so thoroughly discussed in works on clinical diagnosis that less account relatively is given of their varieties and importance in disease. We should like to have seen introduced an account of the hæmometric and other blood methods which are extensively used in this country.

The account of the coronary circulation and the experiments on the cause of cardiac rhythm and on perfusion of the excised mammalian heart are fuller and more complete than is usually the case in English text-books. We do not find the terms introduced by Engelmann of Berlin to designate the action on the heart of the various nerve fibres that occur in the vagus, although Engelmann's views of the conduction of impulses by the muscular tissue as against the neurogenic theory are given in detail (p. 118). The pulse and all that belongs to it are specially and fully dealt with, for this was one of the subjects to which Professor Landois devoted much attention and to which he contributed much original matter. In no text-book are the story, causes, and

uses of the cardio-pneumatic movement so fully set forth. A description of the sphygmometers used in this country might with advantage have been given.

We find no very material changes in the succinct chapter on Respiration. An excellent figure of the change in position of the diaphragm and ribs during the respiratory movements is introduced. The same may be said with regard to the chapter on Digestion and many subsequent sections. More might have been said on the movements of the intestines and of the researches of Pawlow. An occasional disregard of accuracy as to proper names is shown in "Eakins" for Edkins (p. 299). The word casein is not used in the sense usually attached to this word in some recent physiological works. In this work casein is used where caseinogen should be used. Again, we do not find in the index a reference to "secretin," nor, so far as we could discover, is this question dealt with in the text. Reference to "erepsin" is wanting. Possibly the editor and translator wished to give the work as Professor Landois produced it.

The section on Heat is compact and yet sufficiently full, both on the physical and physiological aspect of the subject, while it links up the question of normal temperature with variations from the normal and deals with temperature in the animal creation, thus treating this important and fundamental subject in the true, broad, catholic and only profitable way.

It is in the sections relating to the nervous system that most change or at least most novelty was to be expected. The question of the "neuron" as the physiological unit is stated and compared with the more recent view which rejects the neuron as the physiological unit and which sets forth the fibrillary substance or the neuropile as the medium of nervous activity. Bethe affirms that reflex activity persists in crabs even after the ganglion cells have been extirpated. If this be true, the neuron thus loses its significance in the physiological sense and also from the histological standpoint. The section on the Sympathetic Nervous System, which occupies a little over three pages, might have been expanded. The subject is, however, treated tersely. The record of the functions of the cerebellum is condensed within one and a half pages. Perhaps it is better to state what is definite, or stated to be definite and assured, than to give a dissertation that will require the efforts of many succeeding recorders to obliterate. Better far a recording angel dropping a tear and blotting out the evil and inaccurate records that should never have found a place on the printed page than the free admission of all sorts of statements on insufficient evidence into the pages of a work which has established its place in the hierarchy of acknowledged text-books. We must demur to the sweeping statement that to Holmgren "belongs the credit of having shown the necessity for examining all railroad officials and all pilots as to the trustworthiness of their color-sense." For Holmgren should be read George Wilson of Edinburgh, who was one of nature's nobility. For an all-round view of the facts of physiology as applied to medicine this work is still unrivalled.

Surgical Anatomy of the Head and Neck. By JOHN B. DEAVER, M.D., Surgeon-in-Chief to the German Hospital, Philadelphia. Illustrated by 177 plates, nearly all drawn from original dissections. Neck, Mouth, Pharynx, Larynx, Nose, Orbit, Eyeball, Organ of Hearing, Brain, Back of Neck, Cranium, Scalp, Face. London: Rebman, Limited. 1904. Pp. 770. Price £2 12*s.* 6*d.* net.

WE have already reviewed in these columns and at considerable length the sumptuously got up and lengthy treatise on Surgical Anatomy by Dr. Deaver, the surgeon-in-chief to the German Hospital, Philadelphia. An additional volume, entitled "Surgical Anatomy of the Head and Neck," has now been issued separately by the same author. The volume has been made up by bringing together those sections of the original treatise which appeal chiefly to specialists in diseases of the ear, eye, nose, mouth, throat, and central nervous system. A very judicious selection of matter and illustrations from the original volumes has been made, the result being a well-indexed volume of 770 pages with 177 full-page illustrations. In the letterpress we still find those minute directions for dissection which we previously adversely criticised. We cannot admit that such directions for dissection are called for in a treatise on applied anatomy; they properly belong to anatomy as systematically taught. The anatomical details given in the book are correct enough so far as they go but in many instances they seem to fall short of the correctness of detail and minute accuracy which are needful in dealing with the eye, ear, and central nervous system from a medical and also from a surgical point of view. For instance, the distribution of the arteries of the brain is not indicated with that accuracy which neurology is entitled to demand. The impression carried away after reading the account of the distribution of the cortical branches of the middle cerebral artery is that they supply motor cortex only; their important sensory distribution is not insisted upon. Similarly we find no hint of the important relation of the posterior cerebral artery to the visual cortex. The same lack of important detail characterises the descriptions of the cranial nerves. Again, some of the most important relations of the air sinuses of the skull receive scant attention, while others are not mentioned at all. The relations of the optic tract to the geniculate bodies are incorrectly depicted in the diagram opposite p. 462.

Most of the illustrations have been drawn directly from actual dissections made for the purpose and we have previously expressed our admiration of the way in which they have been reproduced. As an example of their faithfulness to nature it is of interest to compare the brachial plexus represented in Plate XXXI. with Dr. Deaver's description on p. 148. A well-known English anatomical text-book is guilty of the same incongruity. The general impression left on renewing our acquaintance with Dr. Deaver's work in this new form is one of disappointment. The first favourable impression caused by the size, importance, and profuse illustration of the work is spoiled by the discovery of this lack of attention to minute details—details which have such important practical bearings. In a book of size and pretension such as this is we are justified in expecting attention to important minutiæ such as we have indicated.

Bacteriology and the Public Health. By GEORGE NEWMAN, M.D., F.R.S. Edin., D.P.H. Cantab., formerly Demonstrator of Bacteriology in King's College, London; Medical Officer of Health of the Metropolitan Borough of Finsbury. Third edition. Illustrated. London: John Murray. 1904. Pp. 497. Price 21*s.*

THIS work in its first edition formed a volume of the Progressive Science Series and was a comparatively small book entitled "Bacteria." This edition was reviewed in THE LANCET of Nov. 25th, 1899, p. 1448, and it was recognised that the great difficulty of writing a book on such a subject in popular form without too much technical detail had been successfully overcome. A further improved edition was reviewed in 1900. The present issue is nominally a third edition of this work but it has grown into a large volume with a changed title; though the arrangement of the subject matter remains the same it has been so far altered and rewritten that it is practically a new book. The subject is now avowedly regarded in its relation to the problems of public health and the popular character of the work has to a very large extent disappeared.

The first important section treats of bacteria in water

and is supplemented by a section in the appendix in which the methods for the bacteriological examination of water are described and the valuable report of the committee appointed by the Royal Institute of Public Health to consider the standardisation of these methods is given in full. Taken as a whole these sections supply an excellent account of the bacteriology of water especially regarded from the point of view of the medical officer of health. The chapter on Soil Bacteria, good in previous editions, has now been supplemented by a section on the Bacterial Treatment of Sewage in which a clear description of the various biological methods now in favour is given. As might naturally be expected from the recent publication of the joint work on the "Bacteriology of Milk" by Mr. W. H. Swithinbank and the present author, the chapters on the relation of milk to disease and especially to the causation of tuberculosis have been considerably enlarged and the question of the intercommunicability of human and bovine tuberculosis is considered at some length.

Corresponding with the change of title there is a notable increase in the space devoted to the consideration of bacteria in relation to disease, so that this part has become practically an interpolated text-book of bacteriology. In the section on tuberculosis already referred to considerable attention is paid to the acid-fast bacilli and the beautiful plates of the cultures of these organisms which appeared in the "Bacteriology of Milk" have been transferred to this work. The general questions of immunity and of "vaccination," using that term in its present wide signification, are also ably dealt with. A section on disinfection and the appendix on bacteriological methods complete the work. In its present form it is a book of distinct value, not alone to those interested in public health but to those also who are professionally connected with the public health service. The book is clearly printed on good paper and the illustrations are well reproduced.

Life and Letters of Edward Byles Cowell, Professor of Sanskrit, Cambridge, 1867–1903. By GEORGE COWELL, F.R.C.S. Eng. London: Macmillan and Co. 1904. Pp. viii.–480. Price 12*s.* 6*d.* net.

THE subject of this memoir was without doubt a very remarkable man. Born in 1826, he had by the age of 20 years made himself acquainted with no less than nine languages, and he continued subsequently to attack and to master almost every language possessing a literature with extraordinary vigour and success. Welsh, Persian, Sanskrit, and Hindustani yielded up their treasures in turn to this voracious reader. In his letters he quotes indifferently from Rabelais or the Christian Fathers, from Chaucer and Hafiz, from Ausonius and Boccaccio. Very interesting are the comparisons often drawn as a result of this extensive reading between passages in the writings of widely distant authors. Professor Cowell had, too, the gift of pleasant and graceful versification and many of his translations from the Persian are well worth preserving. In 1856 he was appointed professor of history and political economy in the Presidency College, Calcutta, of which he subsequently became principal. In India he threw himself vigorously into the study of Eastern languages. At the same time he devoted himself to the satisfaction of the intellectual and religious needs of his pupils, among whom he was held in the highest esteem and affection. He returned to England owing to failing health in 1864 and was shortly afterwards appointed to the newly established chair of Sanskrit at Cambridge. This post he held till his death in 1903. His biographer, Mr Cowell, is to be commended for his *pietas* towards his distinguished cousin and for the manner in which he has compiled this book. A professor's life perhaps is scarcely diversified by sufficient incident to make the account of it interesting to the general public but by Professor Cowell's many friends and pupils the book should be much appreciated.

LIBRARY TABLE.

The Simple Medical Year Book or Private Medical Ledger, containing a Concise Abstract of Daily, Weekly, Quarterly, and Yearly Receipts and Expenses. London: John Bale, Sons, and Danielsson. Price 10*s.* 6*d.*—Medical men are often said to be deficient in business capacity and especially to be unmethodical in the bookkeeping which is essential for carrying on a general practice. Various styles of books of account with rulings suitable for medical purposes have therefore been brought under the notice of the profession from time to time. For the system followed in the work now before us a high position may be fairly claimed on the ground of simplicity, convenience, and readiness of reference to past transactions. The first 53 pages are ruled with horizontal lines, one for each day of the week, and are further divided into vertical columns provided with a variety of headings under which a place may be found for any item of income or expenditure. There is therefore one page allotted to each week of the year with debit and credit columns on each page. The totals of the columns on each page obviously show the financial results of the practice for each week and these totals as they are obtained are copied into four other pages having exactly similar columns but ruled with 13 horizontal lines for the 13 weeks of each quarter. Finally, there is a "summary for the year," with debit and credit sides from which the balance or net result for the year is readily obtained. In addition to these facilities for recording and exhibiting the items and totals of income and expenditure the book contains some other useful features such as 28 alphabetised pages for memoranda, on which any transactions requiring a special description may be entered at length. The compiler has throughout kept in view the difficulty which professional men not infrequently experience in estimating their expenditure with a view to filling up the income tax assessment form. He devotes three pages to various suggestions and recommendations under the head of "Income Tax Notes," and believes that he has succeeded in producing an ideal private ledger which, when supplemented by an ordinary day book and ledger, will render other account books superfluous. The pages measure eight and a half inches by five and a half inches. They are interleaved with stout white blotting paper on which pencil notes explanatory of the entries in the adjacent columns may be made if required.

Who's Who, 1905 (pp. 1796), and *Who's Who Year Book, 1905* (pp. 128). London: Adam and Charles Black. Price 7*s.* 6*d.* net and 1*s.*—The 1905 issue of that most useful book "Who's Who" is larger by nearly 100 pages than the preceding issue. It is a book which no journalist and few business people can afford to do without, for it contains particulars of the life and career not only of all the people who have ever done anything of note but of a large number of people whose performances are rather creditable than distinguished. It is sometimes made a reproach against "Who's Who" that a proportion of the names contained in its columns are those of mediocrities, but from the point of view of the public it is apt to be those people concerning whom a book of reference is most required. If a man has done something or may in the future do something that will make him of public importance, the less his career is public property the more is information sought for about him. The Year Book contains a variety of information which is always useful but there are certain blemishes. First of all, on p. 13 we find a list of religious bodies headed Churches and among them are noted the National Council of Evangelical Free Churches and the Wesleyan Conference.

Now these two bodies are no more churches than is Convocation or the College of the Propaganda. A worse error, from our point of view, is the section commencing on p. 47 headed Medicine, which purports to give the names of some leading London specialists. Such a list is entirely unnecessary and if it were necessary the list before us is singularly incomplete, and one name at least is given the bearer of which died some two months ago. We sympathise sincerely with the members of the medical profession who are thus labeled and all the more so that we are sure that their names have been inserted without their leave. Both books of reference are so admirably edited that those responsible for them will, we are sure, be quick to suppress this new feature.

The Cycle of Life, according to Modern Science; being a Series of Essays designed to bring Science Home to Men's Business and Bosoms. By C. W. SALEEBY, M.D. London: Harper and Brothers. 1904. Pp. 343, with diagrams. Price 7*s.* 6*d.*—Dr. Saleeby has written a book that can do nobody any harm. He has given a series of homely illustrations of scientific facts and principles and he has written his chapters with commendable brevity. Now and then, however, he has been a little carried away by enthusiasm for his object and by a weakness for high-sounding words. Thus he sometimes fails to repress the commonplace in his matter and the sententious in his manner, as when he remarks that "the commingling of individual speculation with established truth is only excusable if it be plainly stated to which category each clause belongs." Dr. Saleeby's explanations and axioms are hung upon such homely pegs as the subjects of "Cricket," "Dexterity," "Swimming," "Great Britain's Need," and so on, and his book might be given to intelligent boys of 16 at Christmas time.

A Treatise on Materia Medica and Therapeutics. By R. GHOSH, L.M.S. University of Calcutta. Calcutta: Hilton and Co. 1904. Pp. 682. Price R. 4/8—i.e., 7*s.*—Mr. Ghosh's original plan was to publish this work in two volumes, for although he had wished to publish it in one the pressure brought to bear upon him by the students compelled him to issue all the portions of it except toxicology and therapeutics in one volume, the two last-named subjects being reserved for another volume. Before the work was finished Mr. Ghosh died but as he had left behind him all the material for the final volume Lieutenant-Colonel C. P. Lukis, I.M.S., took the work in hand in accordance with Mr. Ghosh's last wishes and the complete book is now issued in one volume. The original Vol. I. was reviewed in THE LANCET of Dec. 7th, 1901, and the new portions of the present volume comprise the subjects of toxicology and therapeutics. The whole work should be found very useful for students, for it is neither too long nor too involved for clear understanding. There are one or two omissions which might be filled in a future edition. For instance, we think that the warning against the not uncommon custom of prescribing strychnine or other alkaloids with bromides or iodides and the risk thereby incurred of the alkaloid separating, which is given on p. 106, should be repeated or referred to when speaking of the drugs concerned. Also in the paragraphs dealing with the therapeutics of alcohol it should be mentioned that the medicinal value of wines or spirits does not depend upon their content of alcohol—i.e., ethyl alcohol—but upon their content of ethers. But taken as a whole the book is a valuable compendium.

WEST OF ENGLAND EYE INFIRMARY, EXETER.—The annual meeting of the governors of this institution was held on Dec. 16th. The medical report stated that during the past 12 months 3174 patients had been treated. The daily average number of in-patients during the year was 47. The financial statement showed that during the past three years the expenditure had exceeded the income by £379.

Analytical Records
FROM
THE LANCET LABORATORY.

(1) ELIXIR GLYCEROPHOSPHATES COMP.; (2) ELIXIR GLYCEROPHOSPHATES OF SODA AND LIME; AND (3) SYRUP TOLU AND HEROINE COMP.

(W. R. WARNER AND CO., PHILADELPHIA; F. NEWBERY AND SONS, 27 AND 28, CHARTERHOUSE-SQUARE, LONDON, E.C.)

(1) THE excellence of the formula of the elixir glycerophosphates comp. must be acknowledged. Each fluid ounce contains eight grains of the glycerophosphates of calcium, 16 grains of sodium, one and a half grains of iron, one grain of manganese, half a grain of quinine, and one-sixteenth of a grain of strychnine. The preparation keeps well, is quite clear and of a yellowish colour, and is not disagreeable to the taste. It is an excellent tonic compound and is a good example of pharmaceutical elegance and skill. (2) The elixir glycerophosphates of soda and lime contains in each fluid ounce eight grains of the former salt and four grains of the latter. The preparation is tinted a delicate green. Like the previous preparation it is not disagreeable to the taste and is a valuable formula for cases of malnutrition or in which want of tone is apparent. (3) The syrup tolu and heroine is described as an efficient sedative expectorant. It contains in each fluid ounce one-third of a grain of heroine, seven and a half grains of cannabis indica, seven and a half grains of lobelia, one-eighth of a grain of tartar emetic, four minims of chloroform, and a convenient quantity of aromatics and syrup of tolu. These drugs are all useful in inflammatory conditions of the respiratory tract.

(1) EXTRACT OF MALT (FERRATED); AND (2) EXTRACT OF MALT WITH IRON, QUININE, AND STRYCHNINE.

(THE TROMMER COMPANY, 27, CHARTERHOUSE-SQUARE, LONDON, E.C.

(1) The excellence of Trommer's extract of malt is well known; it is powerfully diastasic and possesses an agreeable malty flavour. A tablespoonful of the ferrated extract contains four grains of pyro-phosphate of iron, a form of iron which appears to be assimilated effectually. Pyrophosphate of iron is without the objectionable properties of the common iron salts; it is, for example, non-astringent and without effect on the teeth. (2) The same extract of malt is prepared containing the phosphates of iron, quinine, and strychnine, which possess obviously tonic properties.

COMMENDADOR PORT WINE.

(FEUERHEERD BROS. AND CO., 47, MARK-LANE, LONDON, E.C.; D. M. FEUERHEERD, JUN., AND CO., OPORTO.)

This is an excellent port of the tawny type and, as a matter of fact, it is stated that the wine is 25 years old in wood. Opinions differ, of course, as to the merits of tawny ports compared with vintage ports. Certainly the former are lighter in character and dietetically are probably more satisfactory. It is, however, chiefly in regard to flavour that vintage wine is held in esteem, though we have tasted very old tawny ports which possessed an exquisite but delicate flavour. Commendador port is decidedly light in character and cannot be described as a powerful wine. On this account it may be recommended medically. On analysis the following results were obtained: alcohol, by weight 20·92 per cent., by volume 25·57 per cent., equal to proof spirit 44·81 per cent.; extractives, 8·94 per cent.; mineral matter, 0·24 per cent.; sugar, 6·60 per cent.; volatile acidity reckoned as acetic acid, 0·08 per cent.; and fixed acidity reckoned as tartaric acid, 0·15 per cent. The wine was in excellent condition and perfectly clear. As will be seen from the analysis it is practically free from acidity.

NEW SPARKLET SYPHON.

(AERATORS LIMITED, ANGEL-ROAD, EDMONTON, N.)

Whilst admitting in an article in THE LANCET of May 7th, 1904, the great convenience of the sparklet system of aerating water we had occasion to point out one drawback connected with its use and that was that occasionally traces of iron found their way into the aerated water which gave it a metallic taste and which had the effect of forming a black mixture with wine or spirit. This metallic contamination was due to the action of the carbonic acid gas on the steel of the bulb, any drop of water sufficing to carry the dissolved iron down the syphon tube. By inserting a valve in the piercing pin by which the steel tube is cut off from contact with the water after it has been impregnated with gas this objection has been satisfactorily overcome. We have submitted the syphon to several tests and find even after several days that there is no trace of iron in the water. This successful attempt to preserve the purity of the water is to be commended.

(1) "TABLOID" REDUCED IRON COMPOUND; (2) "TABLOID" REDUCED IRON AND RHUBARB COMPOUND.

(MESSRS. BURROUGHS, WELLCOME, AND CO., SNOW-HILL BUILDINGS, LONDON, E.C.)

(1) The formula of the tabloid reduced iron compound is as follows: reduced iron two grains, extract of hyoscyamus one grain, extract of nux vomica half a grain, and oil of caraway a quarter of a minim. (2) The above formula is varied by adding to it one grain of compound rhubarb pill. The advantage of the tabloid in this formula is obvious.

ALLENBURYS MILK AND CEREAL DIET.

(ALLEN AND HANBURYS, LIMITED, BETHNAL GREEN, LONDON, E.)

This is an excellent food fulfilling physiological requirements. We have carried out digestive experiments *in vitro* with it which were very satisfactory, indicating a digestible condition of each food element present. The "diet" is made from full cream milk and wheat, the ingredients being predigested during manufacture. We found in further experiments that over 25 per cent. of its constituents were soluble in cold water. The total proteid amounted to 13·58 per cent., the fat to 11·80 per cent., and the mineral matter to 3·20 per cent. The "diet," therefore, is not only a complete food but an easily digested one and we are not surprised to learn that in practice it gives very satisfactory results.

ANTITAN TEA.

(THE CHINA ASSOCIATION, 25, BUDGE-ROW, CANNON-STREET, LONDON, E.C.)

It is probable that the variations in the astringent properties of tea are dependent not so much upon the degree as upon the kind of tannin present. Thus on thoroughly exhausting tea several times with boiling water an amount of tannin may be obtained which would appear to be high in view of the "soft" character of the kind of tea employed. On the other hand, the same tea may yield a minimum quantity if infused, as tea should properly be infused, for only a few minutes. The specimen of Antitan tea probably belongs to this class—that is to say, it is a tea which yields its tannin very slowly to hot water. The infusion is consequently soft to the taste and free from astringency. Further, it possesses a delicate aroma and fragrance which do not always characterise China teas, though they may yield a delicate infusion. In fact, one drawback to China tea is that it often gives an infusion which is unpalatable. Antitan tea gives a delicately flavoured infusion containing a minimum of astringent principles.

OLMA MALT GIN.

(DAUN AND VALLENTIN, LAMBETH DISTILLERY, LONDON, S.E.)

As analysis shows, this gin differs from ordinary gin in that it is made, in part at least, from malt spirit. It thus contains the secondary products of distillation and fermentation which are present in malt whisky, whereas ordinary gin contains but mere traces of these constituents. The spirit is very palatable and gives the impression that it is entirely free from crude products. Analysis gave the following results: extractive matters, 0·03 per cent.; mineral matter, *nil;* alcohol, by weight 38·06 per cent., by volume 45·22 per cent., equal to proof spirit 79·25 per cent.; and acidity, *nil*. The secondary products given in grammes per 100 litres of absolute alcohol present were as follows: acidity reckoned as acetic acid, *nil;* aldehyde, 5·55; furfural, 1·11; ethers, 52·80; higher alcohols, 222·00; total secondary products, 281·46. The spirit is thus free from sugar or other extractive matters and acidity; the taste is nevertheless peculiarly sweet and aromatic.

FORMAWN.

(LONDON CHEMICAL WORKS, 26, SOUTHWARK BRIDGE-ROAD, LONDON, S.E.)

Formawn is an interesting compound of menthol and formaldehyde. It is described chemically as chlor-methyl-menthyl-ether. On adding the compound to water, and especially warm water, it readily breaks up into its three components—formaldehyde, menthol, and hydrochloric acid. As both formaldehyde and menthol are powerful antiseptics and the latter is also a local anæsthetic the use of formawn in catarrh of the air passages is calculated to have a favourable effect. It is stated that its prompt administration in the form of inhalation will cut short a cold. A simple apparatus is designed for administering formawn and consists of a small glass flask provided with two tubes for insertion into the nostrils. A pastille of formawn is dropped into some warm water in the flask and the vapours given off are drawn through the nasal passages. The vapours certainly give considerable relief in ordinary nasal catarrh and to the distressing symptoms characteristic of the onset of an ordinary cold. Formawn has also been used in the treatment of ozæna. The therapeutic applications of formawn are discussed in German medical literature.

PATENT NON-METALLIC SYPHON.

(IDRIS AND CO., PRATT-STREET, CAMDEN TOWN, LONDON, N.W.)

The construction of this syphon, while quite simple, effectually avoids contamination of the water arising from contact with a metallic spout. The spout consists of porcelain which is protected by a metal cap into which fits the releasing spring and handle. The metal cap itself when in position is completely cut off from the water. The water passes up the syphon tube straight through the porcelain spout. Besides this very important sanitary advantage this arrangement permits of the free passage of the water without any valvular obstruction which leads to loss of gas and aerating efficiency. Moreover, the india-rubber valve is free from objectionable impurities and the porcelain is free from lead.

ROYAL CORNWALL INFIRMARY.—At a meeting of ladies held at Truro on Nov. 22nd, under the presidency of Colonel Tremayne, it was decided to raise £500 to provide laundry equipment, a lift, and lockers for the patients in the Royal Cornwall Infirmary, Truro. Over £100 were promised and it was stated that an appeal will be made by circulars to residents in the county for the remainder.

THE FATHER OF RUSSIAN SURGERY.—On Dec. 6th, says the *Novoe Vremya*, the leading lights in the medical and surgical world of St. Petersburg held their special annual session in the Pirogoff Museum in honour of the "father of Russian surgery, N. I. Pirogoff." The president, Professor N. A. Krugleffsk, spoke feelingly on the services rendered by Pirogoff in military surgery in view of this year of war, whilst Professor S. C. Delitzi recalled Pirogoff's atlas of topographical anatomy, "the copies of which, though rare, still furnish an inexhaustible source of information for surgeons and anatomists."

New Inventions.

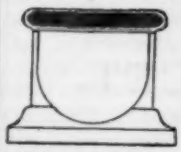
INVALID'S NIGHTDRESS.

WE have received from Messrs. J. and J. Cash of Coventry a sample of an invalid's nightdress made according to a pattern designed by Mrs. E. Francis of Crediton, Devon. The nightdress opens entirely down the front, from the neckband to the shoulder, and also down the dorsal surface of each arm, thus enabling the nurse to attend to any portion of the patient's body or limbs without uncovering the other parts. If it is the back of the patient that requires attention

the whole nightdress can be removed without the usual struggles to get the patient's arms in and out of their armholes and without drawing the garment over the head. The nightdress would obviously be of service in many cases of illness. The medical man or the nurse is enabled easily and quickly through its various openings to get access to any spot that has to be examined or treated and with the minimum of fatigue to the patient. It can be removed by being unbuttoned and drawn, as a sheet is drawn, from under the patient's body and a clean dress can be substituted for a soiled one in the same easy manner. The garment is made in different materials and sizes and is sold at different prices by Messrs. J. and J. Cash. The illustration which accompanies this note has a fashion-plate appearance which our pictures do not often present, but this must be justified by the fact that the construction of the nightdress is well shown by the artist.

A TABLET CRUSHER.

SEVERAL of the compressed forms of pharmaceutical preparations which are now in such common use are dissolved in water or some other suitable fluid before being taken. hotographic chemicals, weighed quantities of common salt for making "saline solution," and many other substances may be treated in the same way. The process of solution is much facilitated by previously powdering the solid and for this purpose Messrs. C. Baker, of 244, High Holborn, London, W.C., have just brought out what they call a "tablet crusher." It is a metal cup or mortar about 0·7 inch in diameter, having cylindrical sides and a rounded bottom. The pestle entirely fills it, not unlike the pestle of the diamond m rtar used by mineralogical chemists. It fulfils the purpose admirably. The illustration represents it in the natural size, partly in section. The price of the tablet crusher in a cloth-covered box is 2*s*.



Looking Back.

FROM

THE LANCET, *SATURDAY*, Dec. 23, 1826.

Deltoid muscle. If there is any part that surgeons should be acquainted with, it is the *gap* between the deltoid, and the clavicular portion of the pectoral muscles. I put my finger into that gap in my own person, and I stop the beating of the pulse at the wrist. Suppose a man has got a bleeding in his arm, which there is a difficulty in stopping, how are you, as a surgeon to stop it? By passing your finger over the first and second ribs, pressing the artery, and you stop it at once. When I talk about this sort of thing, and hear a medical man say he can't do it, I always say there are others that can. And I tell this story of a lady who was examined by a great number of *learned doctors;* they could not tell what was the matter with her; they had *never* met with such an *intermittent* pulse in the whole course of their lives, nor anything at all to equal it, and they pronounced their opinion that she could not live a moment, and left the room; and, *egad*, all this time she was *tweedling* with this artery at the shoulder. (Laughter.)

Now I will only just say, with respect to *system*, that there is a great deal in that. In acquiring a knowledge of any science, system is almost indispensably necessary; but it is especially so in the medical profession. With this view, the abdomen is divided into *regions;* and from want of attending to this, I have known something of this nature occur elsewhere: the examiner has asked a young gentleman who presented himself for examination, "What do you see upon opening the abdomen?" The chap has stared, looked aghast, and stuttered out, "wh- wh- wh; what- what do I see, Sir?" "Aye?" "Why, th- there's, there's the *liver*, Sir." "Well?"

"An- an- and there's the *stomach*, Sir. An- an- an- and- and there's, there's the *spleen*, Sir. And there's the *cæcum*, Sir." (Roars of laughter.) Now, then, just let me tell you, that you will do well to proceed *systematically*, and to *pack* up your knowledge as you go along, in such order, that, when you are asked for it, you will at once know where to find it.[1]

[1] Excerpt from Mr. Abernethy's Physiological, Pathological, and Surgical Observations; delivered in the Anatomical Course of Lectures, at St. Bartholomew's Hospital.

HOSPITAL SUNDAY IN PLYMOUTH.—The sum of £640 has been handed to the treasurer of the South Devon and East Cornwall Hospital, being the amount received from the Hospital Sunday collections on Oct. 30th.

VACCINATION EXPENDITURE.—At a meeting of the Okehampton (Devon) board of guardians held recently it was stated that during the four years preceding the passing of the Vaccination Act 1168 vaccinations were performed at a cost of £120, whilst during the four years since the enforcement of the Act 1472 vaccinations had been performed at an expenditure of £406.—At a meeting of the Tavistock (Devon) board of guardians, held on Nov. 25th, it was reported that the cost of vaccination during the four years preceding the passing of the Vaccination Act was £85 annually, and for the four years since the Act was enforced the cost was £242 per annum.

THE LANCET.

LONDON: SATURDAY, DECEMBER 24, 1904.

Æquanimitas.

THE great principle of evolution or gradual progress which has reduced to order the former chaos of biological science is now recognised to apply to the growth of human knowledge as surely as to other vital phenomena. We now realise that our advancing knowledge of the external world follows a course of steady development, and that just as nature *nihil facit per saltum* in the objective world, so, too, discoveries of even the most momentous kind come only in the fulness of time. The most recent and sensational discovery which has startled mankind by the uniqueness of its phenomena, that of radium and radio-activity, was not by any means a surprise to workers in the realm of physics who had been expecting and looking for just such an element before its presence was actually demonstrated. Radium itself comes to fulfil the law, not to destroy it. And if at times a far-seeing thinker hits upon a truth in advance of his time, as DEMOCRITUS did upon the atomic theory, his discovery is practically stillborn, since the world is not ready to receive it, nor are facts enough at hand to prove its truth.

The unity of knowledge, its orderly continuity and its steady progress throughout the ages, each generation building upon the foundations laid by its predecessor, are perhaps the chief lessons which we may extract from the recently published volume of addresses by Professor OSLER,[1] and the conception may serve as a connecting link to gather together some of the suggestions contained in the volume. Throughout Professor OSLER emphasises the value of the historical point of view in our medical studies—the importance of appreciating the works of the older writers and of realising how the present edifice of medical science was gradually built up by their labours. It is to be feared that the advice is only too necessary at the present day; that we tend to kick away the ladder by which we have mounted and to think that all medical knowledge is the product of the last fifty or, perhaps, hundred years. How many students of medicine in our schools could give any intelligent account of LINACRE, HARVEY, or SYDENHAM? The discoverer of the circulation of the blood is, indeed, known by name to all, but few could give the date of his researches or an intelligent account of his methods. LINACRE and SYDENHAM are but names—unfamiliar names seldom mentioned in our schools. Would even JENNER'S name be honoured as it is were it not for the strenuous perversity of the antivaccinationists? We hope that an ignorance of medical history is not to be an abiding feature of medical education in this country. Now that the old universities are awakening to their duties in respect to the teaching of this branch of knowledge we may, perhaps, expect a more intelligent regulation of the scheme of medical studies. It may be realised that some little elasticity may be permissible in the choice of subjects offered by candidates for a degree; that a knowledge of medical history may be as useful to a medical man as an ability to find sieve-tubes in a plant. Even the examination system which sheds its baleful influence over our student days and leads to the cultivation of those subjects alone in which marks are to be gained, to the neglect of such unnecessary matters as history and other general culture, comes in for some shrewd knocks at Professor OSLER'S hands. It is too much to hope that it will vanish, since it serves, at least, in these democratic days to afford an apparent check upon patronage and favouritism. But there is room for enlightenment in the administration of the system; and it is legitimate to expect that the experience of a man like Professor OSLER—*qui mores hominum multorum vidit et urbes*—will be of inestimable value to the medical school of the University of Oxford, when he takes up his duties there as professor of medicine next year. All great traditions will be in thoroughly safe keeping and no one better than the new Regius Professor could inspire the rising generation of medical graduates with a respect for all that was good in the science of the past and with the spirit which animated the great men whose names adorn the annals of the University.

The development of medicine in Greater Britain is traced by Professor OSLER in an interesting address which was aptly delivered at the meeting of the British Medical Association in Montreal in 1897, aptly because the revival of scientific medicine coincided with the origin of the British colonies and "fellow students of HARVEY at Cambridge might have sailed in the *Mayflower* and the *Arbella*." Later came the influence of HUNTER, whose work as an army surgeon caused his writings to appeal to the participants in the French wars and the War of Independence. The light which he kindled was spread in America by such men as SHIPPEN and PHYSICK. At the beginning of the nineteenth century, however, some lapse had occurred from HUNTER'S spirit and it is to the French school that a new awakening is to be credited. BICHAT, BROUSSAIS, and LAENNEC paved the way for BRIGHT, ADDISON, and STOKES in England. Later Germany took the lead and VIRCHOW'S cellular pathology revolutionised the foundations of our medical knowledge. Since then advance has been rapid and continuous in all directions. Every country has contributed to the common stock. Indian observers have done much to advance our knowledge of infective diseases; Japanese have been to the fore in bacteriology; the history of the malarial organism has been largely worked out by Italian writers. In the presence of such facts we may well realise that science is cosmopolitan and above the limitations of race and habitation. It is superior to that narrow spirit of Chauvinism or local conceit which in one of his addresses Professor OSLER specially deprecates. In its place the scientific student must cultivate that frame of mind which gives its title to Professor OSLER'S volume—*Æquanimitas;* a mind that is not readily cast down by trial or puffed up by success; capable of taking large views and realising that scientific work is for all time, not a mere

[1] Æquanimitas: with other Addresses to Medical Students, Nurses, and Practitioners of Medicine. By William Osler, M.D., F.R.S., Professor of Medicine, Johns Hopkins University, Baltimore. Pp. viii. and 389. London: H. K. Lewis. 1904. Price 7s. 6d.

opportunity for ephemeral dialectical triumphs. The "master word" in medicine is work. As each country contributes its share to the general sum of knowledge so each individual should endeavour to add his experience to that of others by careful, painstaking, thorough observation of all that comes in his way. No one can tell when he may have the opportunity of noting a fact of crucial import which may throw light into some dark place. The advance of science "cometh by observation," for it is only upon a basis of observed facts that those great generalisations can be founded which have made famous the names of NEWTON, GALILEO, and DARWIN.

The Management of the Asylums of the London County Council.

THE management of our public asylums as a whole having been such as to merit the confidence of the public, it was a disagreeable surprise to find a judge and jury condemning in strong terms the management of the Horton Asylum of the London County Council. This adverse opinion was expressed at the trial last summer of certain employés of that asylum for conspiring to steal a quantity of goods the property of the asylums committee of the Council. The jury, according to the report in the public press, commented on the gross mismanagement of the Horton Asylum and the need for serious inquiry into the conduct of those responsible for its administration. The judge is reported as having concurred in the view of the jury as to mismanagement and as adding "it might be that the whole management of the asylum was criminal from top to bottom," a phrase that calls for some comment. In an ordinary county asylum it is the fact that the actual responsibility for the management of the institution is vested in the resident medical superintendent. He exercises supervision over all departments and authority over all the other officers and servants, being in his turn responsible to the visiting committee. But, as has been recently pointed out in the *Journal of Mental Science*, in the asylums under the control of the London County Council the authority vested in the medical superintendent is much more limited. Apart from the desirability or otherwise of the system of undivided responsibility it is clear that under the exceptional principle of government attributed by our contemporary to the asylums committee of the London County Council no sort of responsibility could attach to the medical officers of its asylums in any such regrettable circumstances as those in question. If, as we understand, in the London asylums the steward, storekeeper, and others, instead of being, as in the ordinary county asylum, directly subordinate to the medical superintendent and under his control, are practically independent officials the superintendent has no real authority to supervise them. But if such officials as these are dishonest and falsify their books it is not likely, and seems unreasonable to expect, that a medical officer, even though he has the power to supervise and to control, will detect the fraud. This should be the duty of an independent auditor or accountant with power to examine the stock and books at uncertain times.

The non-medical functions of a medical superintendent of an asylum in this country are already numerous and engrossing. It is doubtful whether in any branch of the profession medical men are required to undertake duties so entirely alien to their proper calling as is the case in the higher branches of the asylum service. No amount of insistence upon the supposed importance of the principle of undivided responsibility can obscure the fact that the observance of this in the asylum service tends to make of the superintendent more and more a lay administrator. Administrative and business aptitudes will be expected in him to such an extent that he must needs cultivate these first and most. In this way his chief energies are absorbed. But to ascribe duties which have nothing to do with his profession to an individual trained in a special way, to expect from a medical man work which is to a large extent that of a steward, is to misuse trained energies. The common and general tendency of the present order of things is to cause the chief medical officer of an asylum, who is mainly occupied with extra-medical duties, to delegate the professional work proper to his assistants. This is not a desirable state of affairs, regarded from the standpoint of the scientific progress of the study and treatment of mental disease, however satisfactory the results may appear to non-medical onlookers and to managing boards. It is to be feared that at the root of the matter is the ingrained British habit of exalting the "practical" man, the administrator, at the expense of the skilled technical worker. There is a clearer appreciation in other countries of the merits of the latter in this as in other departments of science. Whatever views may be held as to the apportioning of duties required by the asylum service there will be unanimity as to the impropriety of interference from without on the part of the governing body with the discharge of such duties by the official or officials to whom they may be allotted. A committee must have confidence in its responsible officers and must give practical expression to that confidence. But to judge from the statements made in the article to which we have referred this obvious principle of administration is not observed in the asylum service of the London County Council. The state of things now exposed may be common knowledge to those engaged in the care and treatment of the insane but we imagine that the profession in general is unaware of it and will have read this indictment of the methods of the asylum committee with surprise. We are told of the usurpation by the committee of the executive authority to an extent which seriously weakens the influence of the medical superintendent in the asylum, the tendency of the system of government being "to leave little or nothing to his discretion or initiative." Small difficulties which in an ordinary asylum are at once settled by the superintendent require, it is stated, to be held over for settlement at committee meetings in the case of the London asylums, whereby needless friction and irritation are aroused. The influence of the medical superintendent over the attendants, upon whose conduct the welfare of the patients chiefly depends, is described as "weakened or destroyed." There is, it appears, an irritating rule applying to the medical officers also as to going out and coming in, whereby "the irksomeness of asylum residence to the

higher officials is enormously increased and their standing lowered in the eyes of their subordinates." The above are some illustrations of the manner in which the executive authority is stated by our contemporary to be usurped by the asylum committee. But a still graver indictment is preferred against this body. There is, it would seem, a power behind the throne in the shape of the clerk to the visitors, a *deus ex machinâ*, to whom the various officials are apt to appeal and "who, in course of time, will probably govern both the asylums and the committees." Here, then, we find drawn a picture of a series of great public institutions of which the medical superintendents are described as mere nominal heads, the executive power, apart from the legislative, which, of course, is properly theirs, being gathered largely into the hands of the governing body and tending to gravitate more and more into those of a permanent, non-resident official who knows, and can know, nothing of the practical working of these institutions. These are matters which affect the public as well as the profession. The London County Council, as a representative body, cannot ignore these serious charges which in the public interest demand prompt and most careful investigation.

The Use, Abuse, and Exclusion of the Colon.

So long ago as 1814 that well abused but distinguished man Sir EVERARD HOME in his lectures on comparative anatomy recorded some interesting experiments and observations on the functions of the colon. He found that if he swallowed a full dose of tincture of rhubarb it appeared in his urine for an hour afterwards. It then disappeared for two or three hours and then appeared again. From this experiment he argued that a rapid absorption occurred in the upper and lower part of the alimentary canal and he thought it probable that the sites of this absorption were the stomach and the cæcum, between which he believed there existed an evident relationship. He pointed out that in animals such as the ruminants in which the stomach was large the cæcum was small, whereas in herbivora as the horse and the rabbit in which the stomach was small the cæcum was gigantic. From this and other evidence he inferred that the cæcum possessed important digestive functions which were developed inversely as those of the stomach. HOME also made a most interesting observation on the great intestine of ducks, for he found that a considerable quantity of fat could be extracted from the contents of their cæca but that by the time these contents had reached the lower colon all fat had disappeared. In the years that followed very little more was done to elucidate the part played in the economy by the colon. It was, indeed, recognised from the work of comparative anatomists that in herbivora the cæcum played a most important part in the digestion of cellulose and it was recognised that the products of this digestion must be absorbed in the colon below, but observation ceased at this point.

During the last few years the activity of surgery in connexion with the appendix has caused a great revival of interest in the functions of the colon and valuable original work in this field has been done quite recently by Dr. W. B. CANNON,[1] Dr. E. BARCLAY-SMITH,[2] Dr. ARTHUR KEITH,[3] and Mr. T. R. ELLIOTT.[4] Finally, Sir WILLIAM MACEWEN summarised our knowledge of this subject and added to it in the recent Huxley lecture.[5] Some of his direct observations of the cæcum, the ileo-cæcal orifice, and the orifice of the appendix in a man whose cæcum had been laid bare by an explosion were of extreme interest. He was able to observe clear thick alkaline fluid pouring from the appendix and cæcal glands just before the ileo-cæcal valve opened and the ileum discharged its acid contents. It is probable that a reflex action excited by acid from the cæcal mucous membrane closes the valve, as PAWLOW has shown is the case in the duodenum, so that the contents are never more than neutral. When this reflex failed to act the ileo-cæcal valve flooded the cæcum with acid fluids which digested the skin around and from this it may be inferred that a normal function of the colon is to destroy these ferments and to neutralise the acidity of the chyme. Sir WILLIAM MACEWEN also suggested that one of the chief functions of the appendix might be to cultivate an attenuated strain of bacillus coli and to inoculate each charge of pabulum as it entered the cæcum, the attenuation of the micro-organism being probably connected with its lymphoid tissue. Such a brief summary of some recent additions to our knowledge of the functions of the colon is enough to show that these are most important even in man. Our knowledge, however, is at present too incomplete to enable us to explain how these functions become disordered and to state the definite causes which lead to constipation and atony of the colon. It seems reasonable to suppose that diet and the manner of feeding and exercise are at fault. Thus a colon constructed to digest coarse food and to remove cellulose casings from starch granules and to be stimulated to vigorous contractions by the constant kneading of the neighbouring abdominal wall, will readily become relaxed, distended, flaccid, and filled with decomposing refuse of food when everything that it was formed to digest is carefully excluded from the diet; in short when food is reduced to the condition of pap and is swallowed in haste and without appetite the colon is not even stimulated to expel its irritating contents by regular and vigorous contraction of the abdominal wall. Whatever may be the causes it is certain that an increasing number of town dwellers suffer from constipation and atony of the colon and that purgatives, enemata, and massage are powerless to prevent their progress from constipation to coprostasis. As the condition advances the patient is poisoned by the decomposing stagnant contents of the colon, though the extent to which the constitutional symptoms may progress is the subject of debate. It is said by some that the red corpuscles are destroyed, so that the face becomes pale and pigmented upon the forehead and below the eyes; that the victim is languid, irritable, and without energy; and that, finally, wasting sets in and loss of fat is well marked. The colon itself undergoes definite organic changes and solid fæcal masses appear in the transverse colon and even the

[1] American Journal of Physiology, vol. vi., 1903, p. 251.
[2] Proceedings of the Cambridge Philosophical Society, vol. xii., part 1, 1903.
[3] Journal of Anatomy and Physiology, January, 1904.
[4] Journal of Physiology, vol. xxxi., May 3rd, 1904.
[5] THE LANCET, Oct. 8th, 1904, p. 995.

cæcum, where only fluid contents should be found, and these masses lead to stercoral ulceration and attacks of diarrhœa or even to acute ulcerative colitis. The distended cæcum may certainly compress the rectum, especially when the patient strains during difficult defecation, and adhesive peritonitis may bind down and fix the displaced colon and constrict its lumen. Long before this last stage is reached a return to health is obviously impossible and an advanced school of modern surgery holds that the patient is better without such a diseased colon. It is in these circumstances that surgery has stepped in to relieve a condition which up to recent times has been regarded as entirely in the domain of medicine. The ileum is divided some distance from the cæcum and the distal portion is closed. The proximal portion of the ileum is then sutured to the colon at some convenient point on the far side of the obstruction which it is desired to "short-circuit," and in this way the peccant portion of intestine is excluded.

This method has usually been employed for inoperable carcinoma of the upper part of the colon. It has, we believe, been used several times for congenital idiopathic dilatation of the colon (Hirschsprung's disease) which produces similar constipation in children to that which we have described in adults. In October, 1900, Mr. C. W. MANSELL MOULLIN performed ileo-colostomy in a case of obstinate constipation of seven years' duration due to atony of the colon following colitis. He did not divide the ileum beyond the anastomosis. His patient, we are informed, has had no return of the chronic constipation.[6] On the other hand, Sir WILLIAM MACEWEN found that a patient from whom he had removed the termination of the ileum, ileo-cæcal valve, cæcum, and part of the ascending colon, suffered from irregular and unexplained attacks of diarrhœa and required to be dieted carefully and never regained his normal standard of health. It is, however, to Mr. W. ARBUTHNOT LANE that the credit is due of definitely carrying out the treatment of cases of chronic intractable constipation such as we have described by exclusion of the colon from the alimentary tract.[7] The fundamental theory of Mr. ARBUTHNOT LANE'S work is that when the colon has been so abused and misused that there is no hope of leading it back to the paths of healthy function—when such organic changes are already established that the normal structure can never be regained—the suffering patient is better without the use of this diseased organ which can with slight risk and with great benefit be excluded from the alimentary canal. His views are not universally accepted, one distinguished physician being, indeed, categorically opposed to them. This fact makes it difficult to be quite certain in what cases operative action is really necessary even while acknowledging the skill and success that have marked Mr. LANE'S procedure. When the hopeless plight has been reached any remedy that is both practical and to some extent successful has claims on our respectful attention. We believe, however, that the time will come when physiology, anatomy, and bacteriology will supply us with such certain and detailed knowledge of the function of the great gut that the physician will be able to prescribe a diet and healthy conduct of life that will keep the colon busily occupied in the performance of its normal functions and prevent it from acting as a stagnant pool in the moving stream of the alimentary canal. In medicine, as in all other things, prevention is better than cure.

[6] Transactions of the Medical Society of London, vol. xxiv., p. 199.
[7] THE LANCET, Dec. 17th, 1904, p. 1696.

Annotations.

"Ne quid nimis."

CHRISTMAS FARE.

THE choice of a flesh food at the Christmas festival seems to lie now between beef and turkey (for no one hears of a leg of mutton, for example, being on the Christmas table) and it is interesting to compare their respective physiological merits. First, it may be said that weight for weight the flesh of the turkey is more nourishing than that of beef but the latter is, generally speaking, cheaper than the former. The moisture in beef, however, exceeds the amount present in the flesh of the turkey and the latter contains a better percentage of proteid or flesh-forming substance. In either case the percentage of moisture is seldom less than 70 per cent. In lean beef the amount of fat is much the same as in a not too well-fed turkey but it must be pointed out that the flesh of poultry differs from that of beef or mutton in not having its muscular fibres permeated by fat and, moreover, the fibres in the flesh of the fowl are short and readily yield to the disintegrating action of the digestive processes. A large amount of fat in either case is apt to interfere with the digestibility of the meat. The fat of beef is more digestible than the fat of the turkey. The fat of birds, in fact, is harder and owing to its tendency to become rancid is unsuitable for the dyspeptic patient. Perhaps the most important difference, however, from a dietetic point of view between beef and turkey is that whereas beef contains a high percentage of extractive matters turkey contains hardly any at all. The extractive matters in beef account largely for its peculiar and marked flavour and owing to their absence in poultry generally and in the pheasant and partridge the flavour of these meats is delicate. But there is no doubt that the extractives of beef as well as of mutton are valuable, for not only are they flavouring agents but they also act as, perhaps, the most powerful stimulants to gastric digestion. They excite the appetite and aid the digestion of the food in which they occur or with which they may be taken. Consequently, the absence of extractives in certain kinds of food frequently gives a feeling of fulness when they are ingested. They are "filling" as it is said. According to these facts the moderate use of a stimulant to promote digestion would be more justified in the case of delicately flavoured foods, as fowl, turkey, and so on, which contain only a small proportion of extractives, than in the case of richly flavoured foods as beef or duck or goose. Physiologically it is quite inadmissible to drink a heavy highly stimulating wine with a juicy beef steak; on the contrary, with the dry meats which contain a small proportion of appetising extractives a glass of wine is acceptable. In the former case it would be adding one stimulant to another but in the latter a missing quality would be supplied. Few people, however, are guided in the choice of food by any question of its more or less nutritive quality, though it is interesting to observe that instinctively they make up a physiological balance where such is scientifically shown to be needed. Thus, the lack of fat in bread is compensated by adding butter to it, the excess of fat in meat is balanced by the excess of carbohydrate or starch in the potato, and even

with turkey, which analysis shows to be free from appetising extractives, an adjunct is often found in the savoury stuffing or sausage meat. Such an adjunct would be obviously quite superfluous, as it would be distasteful, in beef. Instinct and science evidently go hand in hand in these matters.

THE STERILISATION OF DEGENERATES.

AT a recent meeting of the Medico-Legal Society held at the rooms of the Royal Asiatic Society, Sir William Collins being in the chair, a discussion took place initiated by a paper read by Dr. Robert R. Rentoul upon Degeneration, its Causes and Prevention, with reference to the Proposed Sterilisation of Certain Degenerates. In advocating a proposal that all persons likely to bring into the world a degenerate offspring should be rendered by surgical operation incapable of reproducing their species, Dr. Rentoul was not content with the discussion of principles or with indicating in outline the manner in which legal effect might be given to his views. He explained in detail the operations which he desired to see enforced, illustrating them with diagrams hung upon the walls, and laid before his audience the comparative merits of orchotomy, vasectomy, oöphorectomy, and salpingotomy as means for rendering the union of idiots, syphilitic persons, drunkards, criminals, and other undesirable citizens unfertile. He enforced his views by formidable but unconvincing tables of figures in which prostitutes appeared to be included among "degenerates," and, indeed, from the very beginning the debate was bound to be of an unpractical nature as no two people mean the same thing by the much abused adjective—degenerate. We need not discuss surgical details with regard to which, as Sir William Collins hinted, there might be room for disagreement with the lecturer, nor need we express opinions as to the proportion of cases in which "degeneracy" is due to other than hereditary causes. However freely we admit that in the interest of the community persons mentally or physically at fault should as far as possible be prevented from breeding children who in all probability will inherit their defects, we are still some way from the conclusion that to subject all of these by law to deprivation of their generative organs would be either morally justifiable or politically practicable. In the interest of the community it might well be considered desirable that many of its members should cease to live at all but we do not consider ourselves morally justified in taking their lives for this reason only. With regard to the practical possibility of the measures advocated by Dr. Rentoul, we have only to consider that the trifling protective operation of vaccination has not yet been made universally compulsory in order to appreciate the difficulty that Parliament would find in sanctioning what he recommends. Nor need medical practitioners altogether regret this. As one of the speakers at the meeting of the Medico-Legal Society pointed out, the decision as to who were to be certified as fit subjects for sterilisation would rest with the medical profession. The anxiety and responsibility attaching to the certification of persons of unsound mind are very considerable but lunatics are only placed, perhaps temporarily, in confinement and if after recovery they show resentment for what has been done for them they have not a permanent physical mutilation upon which to base a claim for sympathy and compensation. The results of the birth of children from the union of parents who are physically or mentally below the ordinary standards may be deplorable but the avoidance of it by enforced surgical interference cannot be regarded as justifiable until all other means of attaining the same end have been attempted. Such births constitute but one of the effects of unwholesome and unnatural conditions of life and to study how we may escape from an evil effect instead of going to the root of the matter and striving to remove the cause is to attempt to obtain temporary and local relief by an unscientific method which in this instance must be regarded as outside the region known as that of "practical politics."

METROPOLITAN STREET AMBULANCE ASSOCIATION.

THE useful association which bears the above name, and to the work of which we have frequently referred, has issued a circular to all the metropolitan Members of Parliament. The circular states that the association has forwarded a pamphlet containing the report of proceedings for the current year and other "collateral matter." It further reminds metropolitan Members of Parliament that the association is a body of considerably over 1000 medical men, most of whom practise in London, and numbers among its members the Presidents of the Royal Colleges and representatives from all the larger hospitals. The object of the association is stated to be the securing with as little delay as possible of an efficient ambulance service for London and the circular concludes with a hope that the metropolitan Members of Parliament will promote this object in the House of Commons and elsewhere. We have many times pointed out the need of an efficient ambulance service for London and so recently as our issue of Nov. 26th we referred to an inquest held by Mr. Troutbeck on a death the circumstances of which were a lurid comment upon the need for such a service. We therefore earnestly hope that the metropolitan Members of Parliament will do their utmost to further the scheme which the association has set on foot.

DR. DOYEN AND THE SEROTHERAPY OF CANCER.

OUR Paris correspondent writes: "Your readers will remember the excitement aroused by the communication of Dr. Doyen made to the recently held Congress of Surgery. After his communication to the Academy of Medicine in February last[1] Dr. Doyen appealed to the Congress of Surgery, asking it to appreciate his work. The Congress declined to adjudicate while admitting the principle formulated by Dr. Doyen and decided that the Pasteur Institute should be asked to inquire into the matter. A committee of the institute was accordingly appointed, composed of Professor Metchnikoff, Dr. Netter, Dr. Variot, Dr. Blondel, and Dr. Gallois. Professor Metchnikoff took to the institute a number of tubes inoculated at Dr. Doyen's clinic with fragments of malignant growths and with this material commenced a series of researches. At the meeting of the Society of Surgery which was held on Dec. 14th Dr. Doyen showed eight patients. Three were old cases of malignant disease who had been operated upon three years, two years, and ten months ago respectively and who had been treated with Dr. Doyen's serum after operation with a view to prevent recurrence. Another inoperable case had been treated to make the tumour operable and operation was performed on Oct. 24th; another patient operated upon 15 months ago by M. Tuffier, in whom recurrence had taken place, had been treated for the recurrence; and, finally, three severe and quite inoperable cases were shown, the patient having submitted themselves to treatment under the guidance of the above-mentioned committee. Dr. Doyen's remarks dealt chiefly with the bacteriological aspect of the question and with the experiments undertaken by Professor Metchnikoff to confirm the existence of the micrococcus neoformans in cancerous growths. The results of these experiments, which were undertaken by Professor Metchnikoff at the Pasteur Institute with the coöperation of his colleagues and which were watched (*suivies*) by M. Roux

[1] THE LANCET, March 12th, 1904, p. 762.

himself, are to establish the fact that the micrococcus neoformans does exist in cancerous tumours exactly as described by Dr. Doyen and that the question is one of a new microbe of the nature of a (*assez analogue au*) polymorphous coccus. Of 121 tubes inoculated 41 have given pure cultures of the microbe of Doyen and Professor Metchnikoff has also found it in cancerous tumours supplied by other surgeons. The same organism has also been found in cancerous growths taken from the lower animals. Experiments are being made to see whether this organism can reproduce malignant growths. As regards the serum its action in all the cases treated thereby in Dr. Doyen's clinic under the eyes of Professor Metchnikoff has been the same. Tumours have diminished in size, thus becoming operable when before they were not so; affected glands have diminished and the skin in the neighbourhood of the growth has changed colour. Professor Metchnikoff allows the correctness of these facts. As to whether the serum can prevent recurrence is a question which cannot be answered for some years. The Society of Surgery, however, has nominated a committee of five members to keep Dr. Doyen's patients under observation and to report to the society thereon."

THE ICE-SUPPLY OF LONDON.

THE questions of the quality and quantity of the ice-supply of London have been dealt with on more than one occasion in THE LANCET and Dr. W. H. Hamer in a report recently published by order of the public health committee of the London County Council, practically endorses what we have said. He agrees that it is undesirable to continue to repose absolute confidence in natural ice in ignorance of the conditions which exist at the harvesting grounds. Having in view, he adds, the nature of the risks involved in consuming natural ice and the demonstrated insufficiency of the supposed safeguarding circumstances, the reasonable course would appear to be to abandon the use of such ice for actual consumption or for purposes in which it is brought into direct contact with foodstuffs. Further, under such conditions ice made from absolutely pure and preferably from distilled water should, he thinks, be used and strict precautions should be taken to insure that such pure ice does not become contaminated subsequently to its manufacture. In the report by ourselves published in THE LANCET of July 29th, 1893, on the character and quality of the ice-supply of London the conclusions amounted to the following, viz.:—1. By far the greater proportion of the ice supplied in London is natural (generally Norwegian). Of the specimens procured only one had been produced artificially and this gave indifferent results on chemical analysis but results of an eminently satisfactory kind in the light of bacteriological inquiry, practically no development of colonies of organisms taking place on culture. 2. Two out of the five specimens of ice imported into this country from Norway, whilst yielding a satisfactory chemical analysis, were decidedly bad according to bacteriological examination. 3. Three out of five other specimens of imported ice, though furnishing no condemnatory evidence on chemical examination, yielded bacteriological results such as to give rise to suspicion. In view of these results THE LANCET report continued: "It is evident that when ice is intended for human consumption preference should be given to that produced by artificial means, but the water used for this purpose may not be satisfactory and we therefore would strongly urge the desirability of using only distilled water for this purpose." The unsatisfactory bacteriological account of the specimens of Norwegian ice is probably due not to the source of the ice but to incidental causes during its transport which Dr. Hamer points out. As regards the records of ice-borne disease he says that the number of instances in which there has been evidence that actual disease has been caused by the consumption of ice is small. He also very properly calls attention to the need of supervision of cold stores. As he remarks, what is needed in the interests of public health is not merely that any unsound food in a cold store should be seized and destroyed but that consideration should be given in originally designing refrigerating premises to questions of structure and arrangement in their bearing on public health, and in order to attain this object it will probably be found necessary to require registration of all such places. The dairy is subject to control by the health authority and so should be the cold store considering its possibilities for evil. Incidentally an interesting observation is made upon the bacteriology of ice. It is that of Professor Abba who concludes that water bacteria are not so much destroyed as extruded from ice in the process of freezing. This conclusion accords with the observation that foreign matter in water is ejected in a similar way during the formation of ice.

INTERMITTENT CLAUDICATION.

INTERMITTENT claudication is a rare local affection, though it occurs in association with a much more common morbid condition—arterio-sclerosis. Described as early as 1856 by Charcot, it attracted little notice until similar cases were published by Leyden (1874) and Erb (1876). An account of the general symptoms and pathology of this affection was published in THE LANCET some years ago.[1] In the *Medical News* of New York of Dec. 3rd Dr. Arthur Patek, assistant professor of medicine, Wisconsin College of Physicians, U.S.A., records an interesting case which throws light upon the pathology and localisation of the morbid changes of intermittent claudication or limping. The patient was a man, aged 73 years, a merchant of active habits, accustomed to drink in moderation, and with a personal history free from syphilis. He had been in fair health till the age of 60 years, when he began to suffer from gastric discomfort and pain after taking food. Recently he has become weaker and liable to moods of listlessness and apathy, though habitually he has been a man of jovial temperament. This is to be correlated, says Dr. Patek, with his advancing age and a slight degree of arterio-sclerosis which is present and can be detected readily. The special localising symptoms which have more recently developed refer to difficulty in walking and occasional limping. Thus, he says, his legs feel heavy and "dragging," and there is at times a considerable degree of weakness in the lower extremities. It frequently happens that when rising from a sitting posture he has to take hold of something to save him from falling. A dizziness frequently comes over him and makes him sway till he overcomes it. "While walking with comparative ease for a few minutes," adds Dr. Patek, "he suddenly experiences a sense of weight and cramplike pain in the legs, then they give way underneath him and he falls on to the pavement." After a few minutes' rest he recovers, rises and goes home. Arcus senilis is present in both eyes, his complexion is sallow and anæmic, and a slight degree of left hemiparesis is evident which is the result of an old attack of hemiplegia. Slight emphysema and bronchitis are present and the urine is at times found to contain albumin and casts. The radial arteries are slightly harder than normal. Pulsation is present in all the main peripheral arteries, including the dorsalis pedis, but is absent in both the posterior tibial arteries at the level of the internal malleolus. The condition present is, concludes Dr. Patek, a marked local arterio-sclerosis of the posterior tibial arteries so that the muscles supplied by them have an insufficient amount of blood to meet the special

[1] THE LANCET, June 22nd, 1901, p. 1773.

calls of metabolism during walking. The slightest contraction of the already sclerosed vessels brings on cramp and sudden loss of muscular power, with inability to walk or even to limp. Hence the significance of the "claudication" or intermittent limping, which is definitely attributable to the local pathological vascular condition. Such a condition should be differentially diagnosed without difficulty from erythromelalgia and Raynaud's disease.

PATHOLOGY AT OXFORD.

THE meeting which we announced in our issue of Dec. 17th as about to be held under the presidency of Sir William Church to consider the question of pathology at Oxford was duly held at 20, Hanover-square, London, W., on Dec. 20th. The meeting, as is frequently and unavoidably the case with meetings of medical men, was somewhat sparsely attended but the outcome of it was that two committees were appointed, the one a standing committee and the other an executive committee, the duty of which should be to bring before the University the interests of medical education at Oxford and more particularly the need for adequate endowment of the department of pathology. The facts of the case stand thus. The sole endowment of the department at present is the sum of £300 per annum allotted by the University Chest for the salary of a Reader in pathology. All the cost of upkeep and of laboratory apparatus and the like has to be found elsewhere. The Rhodes trustees have allotted a sum of £200 a year for five years, so that the whole settled amount at present available for salaries, upkeep, apparatus, and all other expenses is £500 per annum, although to this must be added students' fees which rarely amount to £100 per annum. If Oxford men could raise a sum of £10,000—i.e., a further £300 a year—it might be that the University Chest would see its way to grant more help towards expenses. Oxford medical men constitute, however, a small body, so that it is doubtful whether they alone could raise such a sum. But it is to be hoped that all Oxford men will help. Although the Medical Faculty possesses an excellent teacher of pathology and an admirable laboratory for him to teach in, the lack of money prevents the teacher from giving his whole time to the work and seriously handicaps the opportunities for work which would be forthcoming if funds were in hand.

ITALY AND THE ANGLO-SAXON.

ONE of our Italian correspondents, under date Dec. 18th, writes: "From her Parliamentary institutions to her periodical journalism, the youngest of the European Powers has, much to her own benefit, initiated or adopted many features of British civilisation; indeed, no full-dress debate in her Upper or Lower House or exhaustive discussion of general or imperial interest in her press is regarded as complete without reference to 'Anglo-Saxon' precedent or without appeals to English experience, historical or contemporary. In the medical field we have constant illustrations in point, particularly on that side of it which deals with public hygiene or the 'pathology of collectivism' as it has been called, including under this category the phenomena of religious revivalism or the organised emotional outbursts to which all society is more or less subject. Italy, past and present, has had her full share of these and in the year now closing has been unusually prolific in moral explosions and fanatical demonstrations, from her ill-inspired and abortive 'scioperi generali' (general strikes) to her 'anticlerical protests' culminating in the unseemly violence and outrage of Dec. 8th. In keeping with her close observation of British experience and usage she is now turning her eye from her own internal manifestations to those of the 'Anglo-Saxon' world and in the columns of her most widely read journal, the *Secolo* of Milan, there is placed before her public a vivid account of the 'religious epidemic' now stirring the Welsh Principality from centre to circumference. After a full historical survey of the successive outbursts of 'mania contionabunda' in the British Isles, the article concentrates itself on 'Revivalism in Wales' and drawing upon the recent comments of THE LANCET—'la nota rivista medico-scientifica'—it entertains its readers to concrete illustrations of this 'curioso fenomeno d'isterismo' which must have the effect of crowding the lunatic asylums of the Principality if not of adding to the number of these institutions. There is an undertone of self-congratulation in the article that Italy is not singular in being subject to ecstatic outbreaks on an epidemic scale—recalling in some degree her satisfaction during the South African war at witnessing the almost hysterical emotionalism displayed on the Stock Exchange and other great British centres when the tension of anxiety as to the fate of Kimberley and Mafeking was unexpectedly relieved. 'Even the self-possessed and sedate Anglo-Saxon,' it was said, 'is not proof against such ordeals and can, on occasion, give evidence of what the medico-psychologist terms the "hyperæsthesia of an over-wrought civilisation."' Be this as it may, the 'pathology of collectivism,' whether in the industrial or political world as in Italy or in the religious field as in the British Isles, is well worth the attention of the publicist in either country, and the influential Milanese journal is fulfilling a salutary function in drawing the attention of its readers to the conditions under which such phenomena develop and die out as that 'revivalism in Wales' on which it opportunely 'strengthens its case' by the comments of THE LANCET."

THE PARASITES OF SMALL-POX, VACCINIA, AND VARICELLA.

WE publish in another column an article by Dr. W. E. de Korté in which he claims to have discovered an amœboid protozoon in the lymph of variola, vaccinia, and varicella, as well as in the analogous disease, amaas or Kaffir milk-pox. The parasite of vaccinia and variola is described as an amœboid organism about $\frac{1}{1000}$th of an inch in diameter, its protoplasm containing highly refractive greenish particles regarded by Dr. de Korté as spores, which in many cases render the nucleus invisible. On the warm stage in the case of the amœba found in human vaccine lymph there is very active amœboid movement, while in the case of that from small-pox lymph although alteration of contour occurs no pseudopodia have been seen. In glycerinated calf lymph large amœbæ are to be observed which are regarded by Dr. de Korté as encysted forms. The amœbæ can best be studied in hanging-drop preparations of the lymph itself, and since they are very easily destroyed by the manipulative processes required for staining they may not be found in stained preparations, although they are capable of being stained. Dr. de Korté discusses the possibility that the supposed organisms may be leucocytes and negatives it among other reasons because they persist in the lymph for as long as six months, whereas leucocytes in human blister-fluid disappear after 14 days even though kept at the body temperature, which would hardly seem a very cogent reason in the absence of details of the origin of the blister fluid or of information of the duration of life of leucocytes in vaccine or variola lymph. Dr. de Korté states that no multiplication of the amœbæ by direct division and no sexual reproduction have as yet been observed, and then writes that he hopes shortly to publish a paper on a method of cultivating the organisms *in vitro*, statements which are somewhat difficult to reconcile. A protozoon or sporozoon

has by several observers been described as occurring in the lymph of vaccinia and variola and has been regarded as the *contagium vivum* of these diseases, although the proofs seem in all cases to be incomplete. Quite recently the same claim has been made in reference to scarlet fever. The observations are therefore of interest but it would seem to be wiser to suspend judgment until the further details of the life-history of the organisms promised by Dr. de Korté are published.

CENTENARY OF THE ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

THE Royal Medical and Chirurgical Society was founded on May 22nd, 1805, and the council has decided to celebrate the centenary year in May next in a manner worthy of the occasion. The following provisional arrangements have been made in order to carry out this intention: there will be a reception by the President of the society at 20, Hanover-square, London, W.; an exhibition will be held of books, prints, instruments, and so on, published or in use at the time of the foundation of the society; a centenary volume will be published giving a narrative history of the society and its work; there will be a festival dinner; and a conversazione, to which ladies will be invited, will take place at the Royal College of Surgeons of England.

THE REPORT OF THE INSPECTOR UNDER THE INEBRIATES ACTS FOR THE YEAR 1903.

THE Inebriates Act scover a period of from 1879 to 1900 but for all practical purposes Governmental dealing with inebriates began with the Inebriates Act of 1898. By this Act reformatories to be established were divided into two classes—namely, State inebriate reformatories and certified inebriate reformatories. The latter are specially conducted for the "reformation of reformable inmates"; the former "have gradually become places for the care and detention of refractory, violent, and weak-minded persons who by their conduct render the work of certified reformatories impossible and who require for their care and control methods which are closely analogous to those associated with the detention of the most violent criminals and lunatics." Of State inebriate reformatories there are two, one at Warwick for males and the other at Aylesbury for females. Of certified inebriate reformatories there were in the year 1903 nine with 677 available beds. In both classes there is a great excess of female patients over males. This is explained by the difference between the way in which the two sexes "take their liquor." Committals to reformatories depend almost entirely upon arrests. In the words of the inspector which he quotes from his report for the year 1901—

> Arrests depend largely upon the amount of insult and obstruction a constable will stand before taking action and more still upon the temperament of the drunken person and the effect alcohol has upon his brain. A drunken woman nearly always becomes hysterical, laughs, dances, or sits on the pavement and screams. She "goes for" her drinking companion on the slightest provocation and a policeman has an attraction for her which she cannot possibly resist. A drunken woman quietly wending her way homewards is a sight rarely to be seen. Consequently, drunken women usually get into trouble. Hysterical frenzy is the exception rather than the rule in the case of a drunken man; he usually plods and struggles homewards with dogged determination, sometimes morose and surly, but more often than not inoffensive if left alone. It is best to draw the curtain over what happens when he does get home; but anyway he escapes arrest. A semi-drunken man will often make superhuman and successful efforts to get a drunken friend quietly home, but it is a rare occurrence to see one woman fulfilling the same office for another, or if she attempts it she makes more obstruction in the effort than does the one she is attempting to befriend.

The inspector is of opinion that practically no sentence under the Acts should be for less than three years. This is not a penal sentence but is given with an object of affording the inebriate a chance of future reformation. The majority of persons, says the inspector, who are sentenced to reformatories would, if left alone, spend most of their time in prison. He quotes the case of a woman who was sentenced in June, 1902, to two years' residence in a reformatory. She was aged 55 years and her police-court record begins in 1868. Of the 34 years between this date and 1902 she spent nearly 23 years in prison and yet, says the report, "we are questioned as to whether three years' detention in a reformatory is justifiable." The whole report is of great interest and should be carefully studied by all medical men and others having the welfare of the community at heart. From the purely medical side it is to be noted that the report says: "Notwithstanding the fact that more than 1000 of the worst drunkards in the country had been admitted to reformatories up to the end of last year we have not been able to record one typical instance of 'cirrhosis of the liver.'"

SIMULTANEOUS APPLICATION OF ELECTRICITY AND MASSAGE.

WE have received from Dr. A. Bobrowa of Smolensky Boulevard, Moscow, a description, partly in English and partly in Russian, of a method of treatment which he has found useful in certain cases. Briefly stated, the method—to which he has given the name of auto-conduction—consists in massage with the simultaneous application of electric currents conveyed through the hand of the operator which is the only electrode employed. Faradic or direct galvanic currents are not used in this way but only high-frequency (Tesla-d'Arsonval) currents. Dr. Bobrowa enumerates the following physiological and therapeutic effects of these currents: (1) they are painless and usually imperceptible, but if very strong they may create a slight feeling of warmth at the points of contact with the electrodes; (2) they cause dilatation of the blood-vessels and lowering of the blood pressure; and (3) they increase the respiratory movements and promote oxidation processes of metabolism. He has used the combined treatment in a variety of pathological conditions, including gout, arthritis, rheumatism (both articular and muscular), diabetes, anæmia, neurasthenia, defective circulation, asthma, dyspepsia, constipation, and neuralgia.

CHRISTMAS BOOKS FOR CHILDREN.

WE have unfortunately already so many inducements to take our pleasures sadly at this festive season that it seems rather a thankless task to point out an additional, if perhaps somewhat exaggerated, danger which may lurk in well-intentioned attempts to minister to the entertainment of the younger members of the community. At this time children's books hold a prominent position on the booksellers' shelves and paterfamilias collects a bundle of them for the little folk at home without any misgiving as to the innocence of the proceeding. Certain of our German friends have, however, suggested that the intellectual pabulum furnished by even the most respected writers of fable may have a pernicious influence upon the youthful mind. In his "Grundriss der Heilpädagogik," a recent work treating of feeble-minded children, Dr. Theodor Heller gravely discusses the potentialities for evil of the familiar Struwelpeter, more particularly of the story of the naughty Frederick. "The barbarity of Frederick, who in certain respects embodies the type of moral insanity, is not," he says, "calculated to inspire in numerous weak-minded children feelings of abhorrence, but is likely rather to give rise to that perverted frame of mind which causes morally deficient persons to enjoy written descriptions or pictorial representations of crimes and evil doings." Dr. Heller regards it as hardly doubtful that the recital of Frederick's adventures may arouse in the minds of juvenile auditors sentiments inimical to the public well-being and he lays special stress on the fact that the retribution which eventually overtook Frederick was a long time in catching him. That cruel boy, it will be

remembered, behaved in the following scandalous fashion. To quote the English version:

> "He caught the flies, poor little things,
> And then tore off their tiny wings.
> He killed the birds and broke the chairs,
> And threw the kitten down the stairs."

and it was not until he injudiciously interfered with the "faithful Tray" that disaster befell him. Even then it does not appear that any permanent improvement in his behaviour resulted. On the whole, the moral of this story is not good though this does not seem to have occurred to its author, Dr. Heinrich Hoffmann, himself a worker among the mentally deficient. Dr. Heller's contention is nothing new, for in the early years of the last century George Cruickshank was acutely pained by the immoral tendency of some folk tales. "Puss in Boots" he considered as an example of the benefits to be obtained from lying. In "Hop o' my Thumb" the conduct of the parents who "lost" their children, to say nothing of that of the ogre who was lured into cutting the throats of his little daughters, filled him with horror, while he felt compelled to re-write "Cinderella" and "Jack and the Beanstalk" as temperance tracts. "Puss in Boots" certainly did lie, or rather told his master to do so, but we do not think that any child was ever led from the straight path by knowing the story. Criticism of this sort may perhaps seem to savour of breaking a butterfly upon the wheel but there is probably a sound basis for Dr. Heller's contention that the books supplied to children help largely in the formation of their characters and that the selection of such books should therefore be effected with due discretion.

ANGIO-NEUROTIC ŒDEMA: ŒDEMA OF THE MUCOUS MEMBRANE OF THE STOMACH.

In 1882 Quincke described a peculiar condition characterised by transient swellings in various parts of the body which he termed "circumscribed œdema." Subsequently Strübing proposed the name of "angio-neurotic œdema" as expressing the etiology. The disease is generally regarded as a variety of urticaria. In some cases not only is the skin but the mucous membranes are affected. In the *American Journal of the Medical Sciences* for November Dr. R. S. Morris has recorded a case which is of great importance as it appears to be the only one in which a piece of the mucous membrane of the stomach was examined. The patient was a man, aged 21 years, who went to hospital on Oct. 23rd, 1903, complaining of swelling of the hands, legs, and larynx, and of gastric trouble. His mother suffered from similar swelling of the hands and had gastric symptoms. The patient first noticed swelling of the hands at the age of 12 years. Sometimes it came on after exertion. It usually disappeared within 48 hours. Subsequently swellings appeared in the feet and then in the elbows and knees. The symptoms gradually increased in severity. At times the throat was affected and the voice became husky. Four years before he came under observation he had "œdema of the glottis" and tracheotomy was performed. In April, 1903, he had another attack of œdema of the glottis which came on in the morning. At noon he could not eat his dinner and at 6 P.M. he was unconscious and tracheotomy was again performed. On July 13th he noticed a swelling under the shoulder blade on rising. This gradually extended up his back and his throat was affected at 4 P.M. At midnight an attempt was made to perform intubation, which was unsuccessful, and a trocar was thrust into the trachea. In August he again had laryngeal obstruction which subsided under steaming of the throat. Coincident with the swelling of the skin there were sometimes nausea, vomiting, and sharp epigastric pain, which lasted one or two days. On admission there were puffiness all over the right hand and foot and red, slightly elevated patches on the thorax and the abdomen. On the following day laryngoscopy showed that the mucous membrane of the larynx was red and slightly swollen. On the 25th there was only slight swelling of the dorsum of the left hand and of the sole of the left foot. On the 28th the stomach was washed out. The fluid which returned contained blood and a large piece of tissue which was placed in absolute alcohol. Microscopical examination showed that it was a piece of gastric mucous membrane. There was great œdema of the interstitial tissue; the lymph spaces and vessels were enormously dilated, the cells of the stroma were separated by wide spaces or vacuoles, and the fibres in many cases were separated into their ultimate fibrillæ. On the 29th the patient felt sick and refused his breakfast. He vomited a light-greenish fluid several times and complained of pain in the stomach. This case therefore confirms the view that the gastric symptoms frequently present in angio-neurotic œdema are due to œdema of the mucous membrane of the stomach. Possibly the periodic vomiting described by von Leyden is due to the same cause.

MR. GEORGE JACKSON AND THE GENERAL MEDICAL COUNCIL.

Mr. George Jackson, one of the Direct Representatives of the profession on the General Medical Council, wishing to bring under the notice of the constituency the subjects which have been discussed in the Council, has addressed to us a lengthy communication the publication of which is rendered unnecessary by the fact that our reports of the last two sessions of the Council contain full accounts of the matters to which he refers. Mr. Jackson regrets that the English Colleges still recognise as places of study institutions which are not suitable in the opinion of the Council and regrets also the *volte-face* of his colleagues in the matter of the registration of medical and dental students. He considers, "with reference to the desirability of reviving in ome form and to some extent the old system of pupilage ..... that the student should be taught the art of treating the patient as well as the disease and that he would be more likely to learn that from an experienced medical practitioner than in the wards or out-patient departments of hospitals." The question of pupilage has rather dropped out from the debates of the Council, but in the November session it was revived upon the motion of Mr. George Brown whose action was justified by the belief of many practitioners that in pupilage lies the correction of the unpractical nature of the modern student's medical curriculum. Educational authorities, however, very generally agree that pupilage is now impracticable.

THE medical officer of health of the Cape Colony states that for the week ending Nov. 26th the conditions as regards plague in the colony were as follows. No case of plague in human beings occurred during the week throughout the colony but plague-infected rodents were found at Port Elizabeth and East London. In the Cape Town district, including the shipping and the harbour, 1019 rodents were examined but no plague infection was found. In the other districts no plague infection in man or animal was discovered. As regards the Mauritius a telegram from the Governor, received at the Colonial Office on Dec. 15th, states that for the week ending Dec. 15th there were 11 cases of plague and nine deaths from the disease.

A BLUE-BOOK has now been issued (Messrs. Eyre and Spottiswoode, East Harding-street, London, E.C. price 8*d.*) containing the terms of the International Sanitary Convention of Paris, 1903, translated by Dr. Theodore Thomson one of the medical inspectors of the Local Government

Board and one of the British delegates at the international conference at which the convention was drawn up.

WE much regret to announce the death at the early age of 49 years of Mr. A. Quarry Silcock, surgeon to St. Mary's Hospital. Mr. Silcock's death followed upon an operation for acute appendicitis and has come as a great shock to his many friends.

Lord Strathcona and Mount Royal has consented to preside at a festival dinner to be held at the Whitehall Rooms, Hôtel Métropole, London, S.W., in aid of the National Hospital for the Paralysed and Epileptic, on April 13th next.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

MEETING OF GENERAL COUNCIL.

A MEETING of the general council of this Fund was held on Dec. 19th at Marlborough House, H.R.H. the PRINCE OF WALES being in the chair.

Lord ROTHSCHILD, the honorary treasurer, stated that the funds received for general purposes up to Dec. 13th after paying expenses were £67,999 18*s.* 11*d.* and that the League of Mercy would provide £14,000. He regretted that there was very little difference in the regular contributions to the Fund this year, but the League of Mercy had been very active and had been able to contribute a larger sum to the Fund than it did last year.

Sir HENRY BURDETT said it would be remembered that His Majesty the King had expressed a wish that the income of the Fund should in part be made up of annual subscriptions of small sums. The League of Mercy endeavoured to carry out this object and received 1*s.* subscriptions in contributions of 1*d.* a month. As one example it might be mentioned that 32,000 pence were collected in one tenement occupied by artisans in sums of under 1*s.* and collected by 1*d.* subscriptions. The total result of the collections for this year was £16,000 and it had been decided that the League should hand to the treasurer £14,000. The League of Mercy, which extended to the home counties, had very usefully and helpfully given grants to those hospitals outside the area of the County of London to which the King's Fund did not contribute.

Mr. H. C. SMITH presented the report of the executive committee, which recommended the distribution of £79,000 to the London hospitals, making, with the £1000 intrusted to the Fund by the London Parochial Charities for the convalescent homes, a total distribution of £80,000. He regretted that the committee had been unable to raise the sum (equal to at least £300,000) which was necessary in order to enable His Royal Highness to take advantage of the munificent offer of an anonymous donor. The reference in the anonymous donor's letter to the possible diversion of funds subscribed for the relief of the sick poor to purposes of medical education had not been lost sight of and a committee had been appointed to inquire into the subject. Its report might be expected to be published before the end of the year.

In presenting the report of the hospitals distribution committee, Sir WILLIAM CHURCH said that the executive committee had placed in its hands the sum of £79,000 for distribution among the London hospitals. In connexion with the grants which the committee was able to recommend for the year 1904 it might be well to mention that the amount available for distribution in 1903 was £20,000 more than that which was now at disposal—viz., £99,000, of which a sum of £18,751 9*s.* was transferred from the general funds. He referred to the refusal of the City Orthopædic Hospital to participate in the amalgamation which was accepted by the National Orthopædic and the Royal Orthopædic Hospitals and remarked that but for the fact that the annual grant of £250 made to the City Orthopædic Hospital was for the maintenance of beds reopened by the Fund they would have seriously considered the question of making any grant. They had, however, felt bound this year, while withdrawing the annual grant, to make a donation of £250, and must reserve their entire freedom of action next year in considering the claims of the City Orthopædic Hospital on the Fund. Several of the subjects which, being preliminary to modern medical education, were taught at the various medical schools, occasioned a demand on the accommodation of the hospitals and a drain on the resources of the schools, which would be avoided were instruction on these subjects provided elsewhere. The question was one which deserved the attention of all who were concerned with the increasing requirements of hospitals. The number of beds reopened as free beds by the Fund since its inauguration was 443.

HIS ROYAL HIGHNESS, in moving the adoption of the report, said: I note with pleasure that as we are receiving a larger sum from the League of Mercy than we anticipated it is not now necessary to draw on our reserve as we at first feared in order to distribute £80,000, and, in fact, I am glad to say we have a small surplus which will be used towards replacing, though only to a slight extent, the £18,000 odd taken from the reserve last year. In reviewing the results of this year's work I must refer to what was said last year when we distributed £100,000 by drawing on our available balance for that purpose to the extent of £18,751 9*s.* I then pointed out that we drew that large sum from our reserves for one year only and I expressed a hope that we might receive increased contributions to enable us to distribute an equal sum this year without any encroachment on our reserves. These hopes were subsequently further raised by the munificent offer of an anonymous donor who promised us a gift which would increase our permanent income by £4668 a year provided twice this amount was raised before the end of this year. That condition, unfortunately, has not been fulfilled. As I anticipated last year the public are now confronted with appeals for over £1,000,000 in connexion with hospitals in London. There is, of course, a limit to what the charitable public can do, and we have had to cut our coat according to our cloth. We are only able this year to distribute £80,000, including the £1000 which the London Parochial Charities generously continue to intrust to us for allotment to convalescent homes. This sum is, I am only too well aware, insufficient to enable us to fulfil our original object. We could easily distribute £150,000 a year to hospitals which require the money and would put it to good use. In the meantime I venture to think that means may be found of increasing the amount at the disposal of the hospitals for carrying on their ever-growing work. It must be remembered that if the expenditure of the hospitals can be decreased without impairing the extent or efficiency of the work they do the result would be even more satisfactory than an increase in the money subscribed to support the hospitals. Waste of all kinds is a bad thing and, as I have before pointed out, some of the hospitals certainly fail in the point of economy. This is a matter of the utmost importance and one with which this Fund most properly concerns itself. Our object, however, is to help, not to hinder; to encourage, not to chill, the work of charity, and to do this by offering friendly assistance to those hospitals which, as we think, might save money by a few slight alterations in their arrangements. I feel sure that those who are generously giving their time to the administrative work of our hospitals would accept the advice we offer in the spirit in which it is meant, even though on examination it might not be found to apply to their particular case. This year a beginning has been made in the direction I have indicated. A statistical report has been prepared on the expenditure of the 16 largest general hospitals which alone received more than half our grants last year. And in doing so we have supplied ourselves with information which no one hospital could be expected to provide on its own account. That report shows some remarkable results. It gives the average expenditure of these 16 hospitals on those branches of expenditure over which control exists. And the aggregate value of the sums paid in excess of these averages works out to no less than £39,400 for the year 1903. We do not say that that sum can all be saved at once. But no doubt every hospital will realise that a large saving could be effected by making sure that no other institution is, in similar circumstances, doing the same work as its own equally well and at a lower cost. We have done all in our power to provide the necessary information by giving the comparative prices of the principal goods used in the different hospitals. Some of the discrepancies are certainly worth serious consideration. By way of example I would mention that there is a difference of no less than 3½*d.* per pound

between the highest and lowest prices paid for the same description of beef, of 3½*d.* per pound for legs of mutton, of 1*s.* 1*d.* in the price of fowls, of 2½*d.* per gallon in the price of milk, and of 7*d.* per pound in the price of tea. In drugs and household articles there are similar discrepancies. There may be reasons to account for some of these differences and all we ask for is careful inquiry on the part of each hospital. I am glad to hear that in the case of one of the largest and best-managed hospitals our efforts have been gratefully acknowledged and that as a result of the comparisons we have provided various economies have been effected which have resulted in a considerable saving. There is another matter to which I must briefly allude. The anonymous donor in his letter to me referred to the question of money subscribed to the relief of the sick poor being used for the purposes of medical education and he expressed a hope that as President I would endeavour to prevent any of the Fund being thus diverted. The doubts which evidently exist in the mind of the anonymous donor were also shared by some other members of the Fund. The question is one which cannot be settled offhand, for there are proper considerations which may be urged both for and against a contribution from the general funds of a hospital to the funds of its medical school. We have therefore thought it best to appoint a committee, consisting of Lord Welby, Sir Edward Fry, and the Bishop of Stepney. I am glad to say that that committee has commenced its labours, that it is receiving every assistance from those who are able to set all sides of the question before it, and I feel confident that a report by three such eminent men will be of the greatest value in assisting us to come to a right conclusion. We have, therefore, shown our subscribers that we are endeavouring as far as possible to assist the hospitals to lay out our grants economically and to husband their resources; that we are willing to help them, if they so desire, to settle any vexed question that may arise with regard to difficulties of administration, whether internal or external, or on matters concerning reconstruction, removal, or amalgamation. The question remains, Can we increase our income and therefore their income? I must own myself greatly disappointed at the results of our appeal for the sum necessary to enable us to accept the generous offer of my anonymous friend. Whether he may be willing to extend beyond the end of this year the period in which we may collect for this object I cannot say. I trust he may do so, for I confess that there is to my mind no better form of charity and I would, while we are still in 1904, appeal once more to those who desire to see their gifts economically and wisely distributed to help us to accept the offer. In these times of depression in trade there are, I know well, great difficulties. But I am convinced that sooner or later the working of this Fund will be appreciated at the proper value. I trust sooner.

HIS ROYAL HIGHNESS then thanked all those who had so ungrudgingly given their time and abilities on behalf of the Fund and moved the adoption of the report.

The LORD MAYOR of LONDON (Mr. JOHN POUND) seconded, and Mr. EDGAR SPEYER supported, the adoption of the report.

Sir JOSEPH DIMSDALE said he understood that it did not come within the province of the Fund to give to any hospital which was substantially endowed. On that ground St. Bartholomew's Hospital was entirely eliminated but he found that many hospitals with endowments were assisted.

Mr. H. C. SMITH, as chairman of the executive committee, said that in answer to Sir Joseph Dimsdale he would like to say that the matter was referred by the distribution committee to the executive committee and they gave patient consideration to it. They thought that a hospital possessed of such very large property as St. Bartholomew's was not one coming within the scope of the Fund. Supposing that a substantial grant were made at the present time it would not carry with it the right of future inspection and recommendation—the indispensable condition upon which the funds were distributed.

The motion was then put and carried unanimously.

On the motion of the Bishop of ROCHESTER, seconded by Lord IVEAGH, a vote of thanks was proposed to His Royal Highness.

To this HIS ROYAL HIGHNESS briefly replied and the proceedings then terminated.

LIST OF GRANTS AND DONATIONS.

The following is a list of the grants and donations, with the comments of the distribution committee. The absence of a grant does not necessarily imply dissatisfaction.

Alexandra Hospital for Children, £500—£350 for balcony; Belgrave Hospital, £500; Blackheath and Charlton Cottage Hospital, £25; Bolingbroke Hospital, £2000 to new building fund; British Lying-in Hospital, £100; Cancer Hospital (an excellent institution); Central London Ophthalmic Hospital, £150; Central London Throat and Ear Hospital, £300 (the committee would view with satisfaction an amalgamation of the Throat and Ear Hospitals); Charing Cross Hospital, £2500—£1000 to building; Chelsea Hospital for Women, £350; Cheyne Hospital, £100 in consideration of the fact that curable cases are admitted; City of London Hospital for Diseases of the Chest, £750 and £1500 annual to support beds reopened by the Fund; City of London Lying-in Hospital (an institution doing excellent work); City Orthopædic Hospital, £250 (the committee feels bound to make this donation in order to provide for the cost of beds opened by this Fund up to Dec. 31st; in view of the hospital's refusal to join in the amalgamation of the orthopædic hospitals the committee reserves entire freedom of action in respect of next year's awards); Clapham Maternity Hospital, £100; "Dreadnought" Hospital, £500 annual, £1000; East End Mothers' Home, £200; East London Hospital for Children, £1000; Eltham and Mottingham Cottage Hospital, £25 (an institution deserving of support); Evelina Hospital, £100; Free Home for the Dying (the committee is pleased to see that this useful institution is well supported); French Hospital, £100; Friedenheim Hospital, £25; General Lying-in Hospital, Lambeth, £200; German Hospital, £150 towards new mortuary and post-mortem room; Gordon Fistula Hospital, £50; Great Northern Central Hospital, £1000—£750 annual to maintain beds reopened by this Fund and £250 for improvements now in hand; Grosvenor Hospital for Women and Children, £100; Guy's Hospital, £5000 annual, £1000; Hampstead General Hospital, £500 to building fund; Home and Infirmary for Sick Children, £25 towards cost of balcony; Hospital for Consumption, £350 towards ward furniture; Hospital for Diseases of the Throat, £100 (the committee would view with satisfaction an amalgamation of the throat and ear hospitals); Hospital for Epilepsy and Paralysis, £400; Hospital for Invalid Gentlewomen, £200; Hospital for Sick Children, Great Ormond-street, £500—£500 annual to maintain beds opened by this Fund; Hospital for Women, Soho-square, £1100 to maintain beds reopened by this Fund (the committee draws attention to the desirability of removing this hospital to another site); Hospital of St. John and St. Elizabeth, St. John's Wood, £500 annual to maintain beds reopened by this Fund; Italian Hospital, £500 annual to maintain beds reopened by this Fund; Kensington Dispensary and Children's Hospital, £25; King's College Hospital, £1000 annual, £1000 donation, and £2500 to the fund for the removal of the hospital to South London, which the committee views with great satisfaction; London Fever Hospital, £200; London Homœopathic Hospital, £200; London Hospital, £2000 (£5000 annual to meet expenditure out of capital made necessary by improvements in the wards); London Lock Hospital, £800; London Temperance Hospital, £400; London Throat Hospital, £50 (the committee would view with satisfaction an amalgamation of the throat and ear hospitals); Medical Mission Hospital (formerly entered as Cottage Hospital, Canning Town), £100; Memorial Cottage Hospital, Mildmay-park, £25; Metropolitan Ear, Nose, and Throat Hospital (the committee is unable to make a grant to this institution as a hospital but would be prepared to consider a grant in the event of amalgamation with the other throat and ear hospitals); Metropolitan Hospital, £1500 (£500 annual to maintain beds reopened by this Fund); Middlesex Hospital, £1250 (£1000 annual to meet deficiency); Mildmay Mission Hospital, £200; Miller Hospital, Greenwich, £750; Mount Vernon Hospital for Consumption (formerly entered as North London Hospital for Consumption), Mount Vernon, Hampstead, £500 (£1000 annual to support beds reopened by this Fund); National Dental Hospital, £75 (to debt); National Hospital for Diseases of the Heart, £15 (to complete cost of x-ray apparatus); National Hospital for the Paralysed and Epileptic, £1000 (£750 annual to meet deficiency); National Orthopædic Hospital, £400 (this grant is given pending the amalgamation with the Royal Orthopædic Hospital which the committee views with great satisfaction and for which a special sum is set aside); New Hospital for Women, £250; North-Eastern Hospital for Children, £500 annual, £1000; North-West London Hospital, £500 (the committee again urges that immediate steps be taken to provide funds not only to maintain but to rebuild this hospital); Norwood Cottage Hospital, £25; Paddington-green Children's Hospital, £400; Passmore Edwards' Acton Cottage Hospital (the committee is glad to say that it does not require help from the Fund this year); Passmore Edwards' Hospital, East Ham, £100 (£50 to out-patient department improvements); Passmore Edwards' Hospital for Willesden, £50; Passmore Edwards' Cottage Hospital, Wood Green, £25; Poplar Hospital, £500 annual; Queen Charlotte's Lying-in Hospital, £500; Queen's Jubilee Hospital, £200 (to building fund); Royal Dental Hospital of London (formerly entered as Dental Hospital), Leicester-square, W.C., £250 to reduce debt; Royal Ear Hospital, £500 to building (the committee would view with satisfaction an amalgamation of the throat and ear hospitals); Royal Eye Hospital, £250; Royal Free Hospital, £750 annual to meet deficiency, £1500 towards improvements (the committee is glad that the improvements previously referred to have been carried out); Royal Hospital for Diseases of the Chest, £400; Royal London Ophthalmic Hospital, £2000 annual, £2000 grant, £2000 to help to maintain the beds opened by this Fund (the committee considers this hospital should receive more support from the public); Royal Orthopædic Hospital, £200 (this grant is given pending the amalgamation with the National Orthopædic Hospital which the committee views with great satisfaction and for which a special sum is set aside); Royal Waterloo Hospital for Children and Women, £750 for building; Royal Westminister Ophthalmic Hospital, £300 to debt; St. Barnabas Hospital, Lloyd-street, W.C. (this institution does not appear to come within the scope of the King's Fund, not being managed by a duly appointed committee); St. George's Hospital, £1000; St. John's Hospital for Diseases of the Skin, £25 to Shepherd's Bush branch; St. John's Hospital, Lewisham, £75 towards renovating nurses' quarters; St. Mark's Hospital, £75; St. Mary's Children's Hospital, £800; St. Mary's Hospital, £2000—£1000 annual to meet deficiency and £1000 to be applied towards completion of buildings; St. Monica's Hospital, Brondesbury-park, £90;

St. Peter's Hospital for Stone, £75; St. Saviour's Hospital, Regent's-park, N.W., £100; St. Thomas's Hospital (the committee is glad to see that there is a substantial surplus this year); Salvation Army Maternity Hospital, Hackney (the committee cannot continue to support this institution in its present condition); Samaritan Free Hospital, £300 annual; Santa Claus Home, Highgate, £25 in consideration of the fact that curable cases are admitted; Tottenham Hospital, £2000—£1000 annual to maintain beds reopened by this Fund, £1000 to building fund; University College Hospital, £1000 annual, £2000 (the committee trusts that this hospital will now be able to reopen the remaining 19 closed beds); Victoria Hospital for Sick Children, Chelsea, £1400—£1000 to building fund (the committee trusts that the vacant wards will shortly be opened for free patients); West-end Hospital for Diseases of the Nervous System, £125 towards balcony; Western Ophthalmic Hospital, £150 to out-patients' department; West Ham Hospital, £300 annual, £2000, £300 annual towards maintenance, £1000 to building; West London Hospital, £1500 annual, £500; Westminster Hospital, £750 annual, £750; and Woolwich and Plumstead Cottage Hospital, £50.

The awards recommended for convalescent homes are as follows:—

All Saints', Eastbourne, £100; Alexandra Hospital, Painswick, £50; Charing Cross Hospital, Limpsfield, Surrey, £50; East London Hospital for Children, Bognor, £100; King's College Hospital, Hemel Hempstead, £100; Mary Wardell, Stanmore, Middlesex, £50; Metropolitan Hospital, Cranbrook, £25; Metropolitan Institution, Piccadilly, £200; Middlesex Hospital, Clacton-on-Sea, £100; Mrs. Gladstone's Free Home for the Poor, Mitcham, Surrey, £25; Mrs. Kitto's Free Convalescent Home, Reigate, £25; National Hospital for the Paralysed and Epileptic, East Finchley, £50; Paddington-green Children's Hospital, Slough, £50; Queen Charlotte's Lying-in Hospital, Victoria-road, Kilburn, £25; and Victoria Hospital for Children, Broadstairs, £50.

METROPOLITAN HOSPITAL SUNDAY FUND.

ANNUAL GENERAL MEETING.

THE annual general meeting of the constituents of this Fund was held in the salon of the London Mansion House on Dec. 16th under the presidency of the LORD MAYOR. Among those present were the Archdeacon of London, Prebendary Ridgeway, Sir William Broadbent, Sir Alfred Fripp, Sir Joseph Dimsdale, M.P., Sir Savile Crossley, Sir John Bell, Sir Henry Burdett, the Hon. Sydney Holland, the Chief Rabbi, Mr. Thomas Wakley, Dr. J. G. Glover, Mr. R. B. Martin, M.P., Mr. R. Grey, and the Hon. Stephen Coleridge.

The report of the council stated that the result of the year's collection was £63,054. The collections in the various places of worship amounted to £47,911, of which St. Paul's Cathedral headed the list with £5492. Mr. George Herring had again supplemented the amount collected in various places of worship to the extent of a quarter of the total amount obtained. His gift this year had been £11,926.

This report was adopted on the motion of Mr. ROBERT GREY, seconded by Sir WILLIAM BROADBENT, after considerable discussion, in the course of which Sir JOHN BELL drew attention to the refusal of an award to the City Orthopædic Hospital this year, and Mr. COLERIDGE proposed an amendment having reference to the alleged appropriation by medical schools of funds granted for other purposes. In seconding this amendment the Rev. L. S. LEWIS complained that the London Hospital had spent £7000 on a sports ground.

The Hon. SYDNEY HOLLAND, chairman of the London Hospital, pointed out that the money was used for the purpose referred to because it was a good investment. The ground could be sold at any time for £10,000 and it was bringing in 4 per cent. interest. He was of opinion that the sick poor were most efficiently helped by medical schools attached to hospitals.

Dr. GLOVER and Sir HENRY BURDETT took part in the discussion, the former dwelling upon the incalculable benefit which medical research had conferred upon humanity and the latter suggesting that a special fund should be created to support medical schools if such support was found necessary. As the committee of King Edward's Hospital Fund dealing with the subject in question was now sitting he hoped that further discussion on the matter would be withheld until that committee had presented its report.

To this suggestion Mr. COLERIDGE assented.

On the motion of Prebendary REYNOLDS, seconded by Mr. D. POWER, the council for the year 1904 was re-elected for the year 1905, with the addition of the Right Rev. Bishop Amigo (of Southwark), the Rev. C. J. Proctor (vicar of Islington), Sir J. Thomson Ritchie, Bart., and Mr. Deputy Wallace, to fill vacancies. Motions were also adopted thanking Mr. George Herring for his generosity which had assisted the Fund by the large amount of £11,926, and also fixing Hospital Sunday, 1905, for June 25th.

The proceedings, which at one time threatened to be of a stormy character, concluded peacefully with a vote of thanks to the Lord Mayor, proposed by Mr. WAKLEY who referred in eulogistic terms to the admirable way in which the meeting had been conducted. This motion was duly seconded and carried with acclamation.

MEETING OF LONDON COMMERCIAL TRAVELLERS.

On the following day, Dec. 17th, the Lord Mayor invited the commercial travellers of London to a conference at the Mansion House to consider the best means of increasing the collections on Hospital Sunday to £100,000. There was a large attendance.

The LORD MAYOR, in opening the proceedings, said that commercial travellers had great opportunities of introducing the work of the Hospital Sunday Fund to the notice of those with whom they came in contact without injuring their own charities which they supported so well.

Sir JOSEPH DIMSDALE proposed the following motion:—

That the hospitals of London are deserving of support and especially at the present time.

He said, referring to the last words of the motion, that the hospitals at all times deserved the greatest support. Some people did not realise the gigantic work which the hospitals were doing year by year. In 12 months no fewer than 108,687 in-patients and 1,771,199 out-patients were treated. This immense work necessitated an outlay of no less than £1,239,988, towards which there was only a reliable income of £920,113, leaving a deficit, to be made up by voluntary contributions, of £319,875. But during the past year 211 hospitals, institutions, and dispensaries had received substantial assistance from the Hospital Sunday Fund. The committee was also authorised to spend 5 per cent. of the amount collected in surgical appliances. This year 6158 appliances had been granted. The total receipts had risen from £27,700 in 1873, when the Fund was inaugurated, to £63,054 this year, and the congregations contributing to the Fund from 1072 to 2004. He mentioned the munificent yearly donations given by Mr. George Herring, whose last contribution amounted to £11,926. He thought his hearers would agree that the expenses incurred by the work of the Fund were very moderate when he told them that it was done upon an outlay of less than 5 per cent. If only 2,000,000 individuals of the population would give 1*s.* each the amount asked for would be obtained. The object of the meeting was to ask the assistance of those present in bringing the Fund to the notice of the toilers, so many of whom must be in sympathy with the work of the hospitals. The hospitals of the metropolis were really imperial institutions, and he asked them as the busy bees of the metropolis to ask those whom they met to support them as charities which, regardless of creed or nationality, gave comfort and support to the sick and alleviated suffering. Some 25 per cent. of the occupants of beds in the London Hospital came from country districts and these districts should therefore render their assistance to the Fund. There was no greater act of charity that his hearers could possibly do than by helping to assist the hospitals and he thanked God that our institutions of healing were still kept up by voluntary contributions.

Sir FREDERICK TREVES seconded the motion and said that the basis of appeal for hospital funds had entirely changed since the time when the Hospital Sunday Fund was founded owing to the advance of medicine and surgery and the innumerable methods of treatment requiring special appliances and antiseptic conditions which were hardly attainable in private houses. The work of the hospitals therefore played a more important part than formerly and was directly beneficial to all classes of the population. The London hospitals were metropolitan only in their locality. Patients were to be found in every London hospital from every part of the country and from practically every colony under the British flag. If any of them heard of a friend being injured in the country almost the first remark made was: "Well, I do hope he has fallen into the hands of a competent surgeon." Nobody ever stopped to think where such surgeons obtained their education. It was a remarkable fact that the medical education of this country depended entirely on the voluntary hospitals, and to an overwhelming extent on the voluntary hospitals in London. If they inquired what the

subscribers to hospitals got for their money he would, taking but one instance, ask what they thought was the commercial value to the world of antiseptic surgery as introduced by Lord Lister? This boon without price was a free gift to the world, after no State grant, no huge sum subscribed to carry on an inquiry, from a solitary man working in a hospital supported by voluntary contributions. In the London Hospital alone there were treated 183,000 new out-patients in one year, more than the whole population of Brighton. Filing past the table at which he was standing at the rate of four a minute, night and day, the patients would take a month to go by. Sir Frederick Treves then gave some remarkable statistics showing the amount of drugs and surgical material used in the London Hospital in one year in order to put before the mind of his audience some idea of the almost unimaginable benefit conferred upon humanity by the work done by our magnificent charities for the sick.

Archdeacon SINCLAIR, in supporting the motion, said that there were 2000 beds unoccupied in the London hospitals for want of money. He would not like to see the hospitals go upon the rates and the commercial travellers of London, who themselves had done so much in helping the helpless, had numerous opportunities of enlisting more general support for the Fund.

Mr. J. E. ALGER, on behalf of the meeting, thanked the Lord Mayor for inviting the commercial travellers and assured him of their desire that the movement should have a practical result.

The motion was adopted unanimously.

Mr. CHARLES A. BODY proposed, and Mr. J. EATON seconded, the following motion:—

That this meeting of London commercial travellers, being desirous of assisting the hospitals of London, pledge themselves to do their utmost to raise a fund to be added to the collection at St. Paul's Cathedral on Hospital Sunday, June 25th, 1905.

It was explained that the object of adding the money to the St. Paul's collection was to gain the grant which Mr. Herring was good enough to give.

The motion was unanimously adopted and on the proposal of Mr. H. S. WINDSOR and Mr. A. J. BRETT a vote of thanks was accorded to the LORD MAYOR who said that special collecting cards would be sent to all who had been invited to the meeting.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 8438 births and 5631 deaths were registered during the week ending Dec. 17th. The annual rate of mortality in these towns, which had been 17·3, 21·6, and 18·5 per 1000 in the three preceding weeks, rose again to 19·2 per 1000 last week. In London the death-rate was 19·0 per 1000, while it averaged 19·3 per 1000 in the 75 other large towns. The lowest death-rates in these towns were 7·7 in Hornsey, 8·7 in Barrow-in-Furness, 10·2 in Southampton, 12·2 in Leyton, in Walthamstow, and in Handsworth (Staffs.), 12·9 in Bournemouth, and 13·0 in Wallasey; the highest rates were 24·7 in Stockton-on-Tees, 25·5 in Bristol, 25·7 in Wigan, 26·1 in Burton-on-Trent, 28·2 in South Shields, 26·4 in West Bromwich, 27·4 in Plymouth, and 30·2 in Hanley. The 5631 deaths in these towns last week included 421 which were referred to the principal infectious diseases, against 400, 482, and 438 in the three preceding weeks; of these 421 deaths, 146 resulted from measles, 69 from whooping-cough, 66 from diphtheria, 49 from diarrhœa, 43 from scarlet fever, 42 from "fever" (principally enteric), and six from small-pox. No death from any of these diseases was registered last week in Hornsey, Hastings, Bournemouth, Southampton, Burton-on-Trent, King's Norton, Smethwick, Aston Manor, Warrington, Huddersfield, Rotherham, or Newport (Mon.); while they caused the highest death-rates in Plymouth, Grimsby, Wigan, Middlesbrough, Stockton-on-Tees, South Shields, Tynemouth, and Merthyr Tydfil. The greatest proportional mortality from measles occurred in Plymouth, Devonport, Bristol, Grimsby, Liverpool, Wigan, Middlesbrough, and Tynemouth; from scarlet fever in West Bromwich; from diphtheria in Handsworth (Staffs.), Derby, Stockton-on-Tees, and West Hartlepool; from whooping-cough in St. Helens, Barrow-in-Furness, Hull, South Shields, and Merthyr Tydfil; from "fever" in Burnley and York; and from diarrhœa in Hanley. Of the six fatal cases of small-pox registered in the 76 large towns last week, two belonged to Preston, two to South Shields, one in Oldham, and one in Halifax. The number of small-pox patients in the Metropolitan Asylums hospitals, which had been one, three, and four at the end of the three preceding weeks, had further risen to six at the end of last week; two new cases were admitted during the week, against two, two, and one in the three preceding weeks. The number of scarlet fever cases remaining under treatment in these hospitals and in the London Fever Hospital on Saturday, Dec. 17th, was 2403, against 2741, 2625, and 2490 on the three preceding Saturdays; 242 new cases were admitted during the week, against 262, 247, and 263, in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system, which had been 385, 565, and 448 in the three preceding weeks, rose again last week to 487, and were 142 above the number in the corresponding period of last year. Influenza was certified as the primary cause of 45 deaths in London last week, against 30, 26, and 30 in the three preceding weeks. The causes of 65, or 1·2 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Leicester, Bradford, Leeds, Newcastle-upon-Tyne, and in 46 other smaller towns; the largest proportions of uncertified deaths were registered in Burton-on-Trent, Birmingham, Coventry, Liverpool, St. Helens, Warrington, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 18·0, 21·2, and 19·7 per 1000 in the three preceding weeks, further rose to 22·6 per 1000 during the week ending Dec. 17th, and was 3·4 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 16·9 in Perth and 17·1 in Edinburgh to 24·8 in Paisley and 26·6 in Glasgow. The 747 deaths in these towns last week included 32 which were referred to whooping-cough, 17 to measles, 16 to diarrhœa, seven to diphtheria, six to "fever," and two to scarlet fever. In all, 80 deaths resulted from these principal infectious diseases last week, against 60, 71, and 68 in the three preceding weeks. These 80 deaths were equal to an annual rate of 2·4 per 1000, which was 1·0 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 21, 34, and 38 in the three preceding weeks, declined again last week to 32, of which 26 occurred in Glasgow and three in Edinburgh. The deaths from measles, which had been 16 and ten in the two preceding weeks, rose again to 17 last week and included ten in Aberdeen, three in Glasgow, and three in Leith. The fatal cases of diarrhœa, which had been 18, ten, and 15 in the three preceding weeks, increased last week to 16, of which six were registered in Glasgow, four in Dundee, two in Edinburgh, and two in Aberdeen. The deaths from diphtheria, which had been nine, six, and three in the three preceding weeks, rose again to seven last week and included five in Glasgow. The fatal cases of "fever," which had been three, four, and one in the three preceding weeks, increased last week to six, of which four occurred in Glasgow. The deaths referred to diseases of the respiratory organs in these towns, which had been 174, 190, and 204 in the three preceding weeks, further rose last week to 206 and were 22 in excess of the number in the corresponding period of last year. The causes of 13, or nearly 2 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·6, 27·0, and 25·2 per 1000 in the three preceding weeks, was 25·3 per 1000 during the week ending Dec. 17th. During the past four weeks the death-rate has averaged 25·0 per 1000, the rates during the same period being 18·9 in London and 16·1 in Edinburgh. The 164 deaths of persons belonging to Dublin registered during the week under notice included 10 which were referred to the principal infectious diseases, against 21, 20, and 14 in the three preceding weeks; not any of these deaths resulted from

small-pox, scarlet fever, diphtheria, or whooping-cough. These 10 deaths were equal to an annual rate of 1·4 per 1000, the death-rates last week from the principal infectious diseases being 1·0 in London and 0·9 in Edinburgh. The fatal cases of measles, which had been 12, 12, and ten in the three preceding weeks, further declined last week to six. The deaths from diarrhœa, which had been four, three, and one in the three preceding weeks, rose again to three last week. The 184 deaths in Dublin last week included 39 among children under one year of age and 46 among persons aged 60 years and upwards; the deaths of infants were slightly in excess of the number in the preceding week, while the deaths of elderly persons showed a small decrease. Six inquest cases and five deaths from violence were registered; and 51, or nearly a third, of the deaths occurred in public institutions. The causes of ten, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: J. Crowley to the *Bulwark* on recommissioning; H. F. Iliewicz to the *President* additional and lent to Deptford Yard. Staff Surgeon W. Jackson to the *Spartan*. Surgeons: B. Pick to the *Illustrious*; J. H. McDowall to the *Good Hope*; and H. G. T. Major and G. L. Buckeridge to the *Bulwark* on recommissioning.

ARMY MEDICAL STAFF.

Surgeon-General Sir W. Taylor, K.C.B., K.H.P., is placed on retired pay (dated Dec. 2nd, 1904).

ROYAL ARMY MEDICAL CORPS.

The retirement of Major A. E. C. Spence is to take effect from Nov. 21st, 1904, and not as stated in the *London Gazette* of Nov. 15th, 1904.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Cheshire: Surgeon-Captain R. B. Wright resigns his commission (dated Dec. 17th, 1904). 2nd Hampshire: Surgeon-Lieutenant J. H. F. Way resigns his commission (dated Dec. 17th, 1904). 2nd Middlesex: Andrew Elliot to be Surgeon-Lieutenant (dated Dec. 17th, 1904). 1st Orkney: Alfred Lees Low to be Surgeon-Lieutenant (dated Dec. 17th, 1904). 2nd Sussex: Surgeon-Lieutenant H. E. Hewitt resigns his commission (dated Dec. 17th, 1904).

THE TIBET MISSION.

The King has been graciously pleased to make the following appointment to the Most Honourable Order of the Bath in recognition of the services of the undermentioned in connexion with the Tibet Mission:—To be Ordinary Member of the Military Division of the Third Class, or Companion of the Order, Lieutenant-Colonel Laurence Augustine Waddell, C.I.E., I.M.S.

BALSAM OF PERU AS A FIRST DRESSING IN WARFARE.

In the *Centralblatt für Chirurgie*, No. 26, 1904, Dr. W. J. van Stockum advocates the employment of balsam of Peru as a first dressing for wounds on the field of battle, his recommendation being founded on a series of experiments extending over a number of years. Facility of application and good results are the advantages claimed. Neither disinfection nor sterilisation is, as a rule, necessary and the dressing can be left 20 days or longer without renewal. The balsam is both compressive and absorbent and in wounds of the surface anyone can apply it; but in the case of penetrating wounds of narrow dimensions the aid of a surgeon is desirable, and if he should make use of a syringe to reach the inner parts it ought to be sterilised. The statistics quoted by Dr. van Stockum are entirely in favour of his contention. He finds that only 4·5 per cent. of the cases of compound fracture in which balsam of Peru was employed as a first dressing were attended by suppuration, whereas in cases that were treated according to the antiseptic system the percentage was 17.

THE OFFICE OF DIRECTOR-GENERAL, A.M.S.

"A disturbing rumour is current," says the *Army and Navy Gazette*, "that the appointment of Director-General Army Medical Service is to be abolished and an officer of junior rank to a Surgeon-General appointed as expert adviser for the Army Medical Service under the Adjutant-General. If such a course should be adopted we take it that the Advisory Board would be a party to it. We can only say that the abolition of the Director-Generalship would be attended by deplorable consequences. No successor to Sir William Taylor has yet been appointed, though several highly distinguished officers are available; and it is possible that the Army Council and the Advisory Board may each have nominated different persons, in which case the Secretary of State should most certainly select the officer desired by the former. The delay is a scandal. We can hardly credit the statement."

THE CONSTRUCTION OF ARMY BARRACKS AND HOSPITALS.

From what we can learn an important change is to be made in regard to the building of new barracks and hospitals for the army. In the past it has always fallen to the special charge and responsibility of the Royal Engineers to design and to carry out all the work connected with the construction and repair of these buildings, whereas the officers of this corps are, so far as the planning and construction of new buildings are concerned, to be relieved of this work, which is in future to be transferred to, and placed under, a civilian head. The recently erected barrack buildings at Colchester and Mill Hill, to the latter of which we have already called attention, may be taken as being the latest constructed on Royal Engineer plans.

COOL DRINKING WATER FOR SAILORS IN WARM CLIMATES.

In the second part of an article in the *Archives de Médecine Navale*, to which we referred last week in this column, Dr. Le Méhauté briefly alludes to a measure recently adopted by the French naval authorities which is calculated to give great satisfaction to the persons principally concerned. In all French men-of-war stationed in latitudes where the climate is conventionally called warm the artificial cooling of the drinking water is in future to be obligatory. To this end a frigorific apparatus has been sanctioned for every ship so circumstanced and the sailors will no longer be compelled to quench their abnormally increased thirst with more or less tepid water.

DEATHS IN THE SERVICES.

Deputy Inspector-General of Hospitals and Fleets George Andrew Campbell, R.N. (retired), on Dec. 19th, aged 66 years. He entered the Navy in 1860, became staff surgeon in 1872, fleet surgeon in 1883, and retired in 1891 with the rank of deputy inspector-general. He served in the *Heela* at the bombardment of Alexandria on July 11th, 1882, during the Egyptian campaign (Egyptian medal, Alexandria clasp, and Khedive's bronze star) and throughout the naval and military operations, near Suakin, in the Eastern Sudan, in 1884 (Suakin clasp).

HOSPITAL SHIPS IN WAR.

A *Times* telegram, dated Brussels, Dec. 18th, states that the International Congress on Hospital Ships in time of War, now sitting at The Hague, has adopted without modification the draft convention drawn up by the committee.

THE WAR IN THE FAR EAST.

Further and more detailed accounts of the 12 days' conflicts at Port Arthur in connexion with the capture of 203 Metre Hill only serve to bring out in a more realistic way the fierce nature of the fighting, the valour displayed, and the losses sustained on both sides. The Japanese have subsequently succeeded in adding to their captures but the besieged fortress still holds out. Some correspondence of a courteous and chivalrous nature has taken place between General Stössel and General Nogi relative to the danger incurred by the sick and wounded undergoing treatment in hospital from the Japanese artillery fire. The position on the Shaho appears to be unchanged and it is probably unique in the history of war that two enormous armies should remain inactive in such close touch with one another. We hear little or nothing from Government sources of the working of the Russian hospital and transport arrangements at the seat of war and this is only natural in the circumstances. If any reliance can be placed, however, upon the descriptions that have been received and occasionally published from correspondents in Manchuria the situation at Mukden and the railway transport difficulties which the wounded had to encounter after the late series of battles have been very deplorable and trying to all concerned. The fact is that the number of medical officers and the means available for the relief and treatment of the wounded and sick so suddenly

thrown upon the hospital commissariat and sick transport departments proved inadequate to cope with the situation.

The Russian Red Cross Society has received advice that in Port Arthur there are two Red Cross hospitals with 300 beds, besides the *Mongolia* hospital ship, and a special note is made of the fact that when Spiridinoff took the ammunition train into the town just as the communications were about to be cut by the Japanese he took in large supplies of medicines, bandaging material, and surgical instruments. 200 extra beds were provided for so that "the Red Cross Society of Port Arthur disposes of 800 beds, 130,000 roubles in cash, and unlimited credit."

The *Pharmatzevtitcheski Viestnik* says that a telegram appears in the Moscow papers from P. I. Postnikoff, chief medical officer of the Dvoryansk detachment, in which he, *inter alia*, says that the surgical instruments obtained from a well-known firm proved to be "beneath criticism," showing, he adds, that "one must not rely even on firms of a well-established reputation."

Correspondence.

"Audi alteram partem."

LEPROSY IN CHINA.

To the Editors of THE LANCET.

SIRS,—Will you allow me to ask for information from the numerous readers of THE LANCET who are personally acquainted with China and the Chinese? What I particularly want to know is whether there are any differences in the conditions of life in North and South China which may be supposed to explain the prevalence through untold generations of a contagious disease in the one whilst it is entirely absent in the other. As all know, Peking is in the extreme north of China proper and Canton in the extreme south. Between them lies an immense inland district bordered by a sea coast of many hundred miles. Now, in the whole Canton district leprosy is very abundant whilst in the Peking district (inclusive of Teintsin, the Liverpool of North China) it is reputed to be absent. It may be that further investigation will prove that the absence is not so absolute as some have assumed, but at any rate the evidence has been sufficient to convince so good an authority as Mr. James Cantlie who in his prize essay on the subject strongly asserts it. In the district which intervenes the disease gradually diminishes as you go north. There is, of course, the freest possible intercourse between the two districts and although the Chinese at home are not much given to wandering, opportunities for contagion must be of constant recurrence. In passing, it may be remarked that Mr. Cantlie credits the Chinese of the southern provinces with having introduced leprosy into almost all the islands of the southern hemisphere into which they have immigrated. They have, however, never been able to introduce, or at any rate to perpetuate, it in the northern half of their own kingdom.

Can any plausible explanation of this extraordinary fact be offered? That the prevalence of leprosy is not influenced by climate, latitude, geological formation, or race is now acknowledged by all, and the facts quoted would appear to be in direct opposition to any suggestion of contagion. If the Chinese have been able by personal infection to spread the disease in the Sandwich Islands and other places, why should they not with vastly increased opportunities extended over many ages have succeeded in infecting men of their own race near at home. My own explanation of the facts is ready and definite. North China is a dry, sandy district abounding in salt and producing little or no fish. South China has abundant fish and its salt is imported and taxed. The Chinaman can introduce leprosy wherever he goes if only he finds there plenty of fish. His success becomes assured if only there be a deficiency of salt. The agent by which he works is the fish which he cures so badly. Such is my creed, and I shall feel exceedingly indebted to any of your readers who can offer any other or produce any facts which may qualify it.

I am, Sirs, yours faithfully,

Dec. 20th, 1904. JONATHAN HUTCHINSON.

THE RECENT DISCUSSION ON CHLOROFORM ANÆSTHESIA.

To the Editors of THE LANCET.

SIRS,—May I be permitted to supplement your reporter's account of the remarks I made when bringing to a close the discussion on chloroform anæsthesia at the Royal Medical and Chirurgical Society last week? My reason for asking this favour is that, as the account now stands, I appear to have had little or nothing to say in reply to Sir Victor Horsley's criticisms of those principles in chloroform administration upon which I laid such stress when opening the discussion. The fact is that Sir Victor Horsley's assertion that certain clinical phenomena do not occur led me to express the opinion that he could not have closely observed his cases. I do not see, indeed, how it is possible for anyone who is not frequently engaged in the actual administration of anæsthetics to human subjects to become acquainted with the phenomena which precede, attend, and follow a state of danger during anæsthesia. With due respect to the physiologist, I am convinced he has yet to appreciate the fact that in patients under anæsthetics phenomena may arise which are not to be seen in the physiological laboratory. With due respect to the operating surgeon I venture to say that he, too, has little or no opportunity of studying the inception of threatening conditions during anæsthesia.

I do not propose to add anything to what I have already said concerning the question which was more immediately before the meeting—the advisability of employing a regulating inhaler for chloroform. Nor do I propose to refer again in general terms to what I considered to be the first principle upon which chloroform should be given.[1] I intend merely to deal with two passages in Sir Victor Horsley's remarks. He has challenged views which I formed many years ago,[2] which I have imparted to a large number of students, and which I still hold. With the object of deciding whether Sir Victor Horsley's observations or my own are correct I should like to invite the criticism of all careful clinical observers on the points in question and to ask you, Sirs, to be kind enough to receive and to publish these criticisms.

Sir Victor Horsley denies (1) that different patients require widely different quantities of chloroform in order to produce similar effects; and (2) that tongue retraction and laryngeal spasm may occur as the immediate reflex results of surgical stimuli.

1. I have notes of many cases in which remarkably small quantities of chloroform have been sufficient to abolish the usual reflexes and to bring about the usual phenomena of chloroform anæsthesia. Anæmic, non-excitable women, of the chronic invalid type, who have never tasted alcohol, often display this susceptibility. Plethoric, muscular men, who have led outdoor lives and have smoked and drunk to excess may display such insusceptibility to chloroform that it is difficult, even when the Skinner's mask is dripping with this anæsthetic, to secure the proper degree of anæsthesia. The body weight is a comparatively unimportant matter. Children, for example, often require comparatively large doses of ether or chloroform before surgical anæsthesia becomes established. The susceptibility of the nervous system and the degree of muscular development appear to be the chief factors in determining the requisite dose. Were we to proceed upon the lines advocated by Sir Victor Horsley we should poison our susceptible and produce intoxication rather than anæsthesia in our insusceptible patients.

2. My statement is that in certain of the cases in which threatening symptoms appear under chloroform such symptoms may be primarily dependent upon spasmodic states of the upper air passages produced by surgical stimuli. I am not contending that these spasmodic phenomena only originate in this way. As I have pointed out, they may arise before the operation commences—i.e., when other muscles are being thrown into a state of spasm during the excitement stage. I admit, moreover, that they may in some cases result from the direct effects of the anæsthetic vapour. But this is not the present point. The patients most liable to reflex (operative) tongue retraction are the muscular,

[1] THE LANCET, Nov. 26th, 1904, p. 1497.

[2] See Transactions of the Royal Medical and Chirurgical Society, vol. lxxiv., "Clinical Observations upon Respiration during Anæsthesia, with Special Reference to the Causes of Embarrassed and Obstructed Breathing."

bloated, alcoholic, and flabby men, of thick build, with an already somewhat restricted throat capacity. Certain of the patients in whom I have witnessed the phenomenon have been great smokers and have had "irritable throats" and some degree of nasal obstruction. The procedure most likely to induce tongue retraction is either dilatation of the sphincter ani or some rectal manipulation or operation. I have, however, known it occur as the immediate result of a simple cutaneous incision. I have met with it under ether and under chloroform. It is certainly more common *before* the cornea has become insensitive than after, although owing to the lateness of the rectal reflexes to disappear it may take place even when full anæsthesia has been produced. That tongue retraction actually occurs may be proved by observing the organ to be drawn back and thus to arrest breathing at the moment the particular stimulus is applied. The patients most liable to the intense form of laryngeal spasm which culminates in complete arrest of breathing are healthy, florid, young women. The operations most likely to induce this spasm are abdominal operations in general and especially those in which the peritoneum is dragged upon. Thus, it is common in oöphorectomy, abdominal hysterectomy, &c. It is, curiously enough, far more common under chloroform than under ether and is liable to arise during moderate anæsthesia when the cornea is just sensitive to touch. Rectal operations will also induce laryngeal spasm but the "crowing" is of a different pitch from that produced by peritoneal traction. In moderately intense spasm—i.e., when some air still passes through the larynx—the patient's colour may be but slightly altered, but in the most intense forms with high-pitched stridor the organ may completely close and the only remedy short of laryngotomy is the forcible tongue traction described by Lord Lister which, as he very properly insists, operates reflexly in relaxing the spasm.

I have not entered into the above details with the object of insisting upon the frequency of reflex tongue retraction and reflex laryngeal spasm as factors in chloroform accidents. As a matter of fact, each of these two conditions is often present in a minor degree during surgical operations, the former giving evidence of its presence by stertor, the latter by stridor. It is only when partial or complete occlusion of the air tract has taken place that the symptoms become urgent; and unless the administrator has been watching the case carefully he may readily attribute the symptoms to an overdose of chloroform, or, worse than this, he may overlook the asphyxial factor, and, putting his finger upon an indifferent pulse, he may quote the case as one of "cardiac syncope" or "chloroform collapse."

I am, Sirs, yours faithfully,
FREDERIC W. HEWITT.

Queen Anne-street, W., Dec. 20th, 1904.

To the Editors of THE LANCET.

SIRS,—At a recent meeting of the Royal Medical and Chirurgical Society I expressed my belief that the "importance of administering known proportions of chloroform was over-estimated," but as the exigencies of time did not allow of my giving my reasons for coming to this conclusion and as some very emphatic opinions in favour of "dosage" were expressed, I should like to be permitted to say a few more words upon the subject. In its ordinary medical sense the term "dose" is used to indicate the quantity of a drug which the patient actually gets, but this does not seem to be the way in which the term is understood by all the advocates of the new inhalers. For instance, it has been suggested that not to use a percentage-regulating machine was like giving a man a "dose" of liquor strychninæ without measuring it. This view is surely based upon a misconception of the possibilities of the new machines. These instruments, in their present forms at any rate, cannot, as far as I understand them, do more than attempt to standardise and to regulate the strength of the vapour which it is possible to supply; the exact volume of this standardised vapour—i.e., the dose—which the patient actually gets must surely depend upon his lung capacity, vigour of respiration, and other variable factors.

I am under the impression that the advocates of the exhaust or vacuum form of apparatus (Vernon Harcourt and Levy) maintain that by making the vigour of the respirations a controlling element in the working of their machines they have come within measurable distance of being able to regulate these variable factors, but this view seems to be repudiated by those who are in favour of the plenum or propulsion system (Dubois, Waller, and others). Assuming, however, that one or other, or both, of these methods give correct results, it appears to me that if the knowledge of the percentage strength of the vapour inhaled is to be of any real practical value we must also assume that the effect of the drug is in all people in exact proportion to the strength presented for inhalation, that there is no such thing as personal idiosyncrasy, and that there are no extraneous influences which can modify this simple reaction. The arguments brought forward in favour of these assumptions seem to me to be inadequate. They are for the most part based upon laboratory experience under conditions which do not tally with the peculiar clinical conditions which the anæsthetist is called upon to face. I do not think that the available clinical evidence with the new instruments touches the question of "dosage"; the results obtained would have been equally good if the experienced men by whom the machines have hitherto been used had merely used them as regulating inhalers, and had been quite ignorant of the exact strength of the vapour which the movements of the index represented. Whether we should use an elaborate machine merely to regulate the strength of the vapour, or whether it may not be better, as I believe, to rely upon the skill and care of the administrator are, however, points quite apart from the question of "dosage."—I am, Sirs, yours faithfully,

Dec. 19th, 1904. J. FREDK. W. SILK.

THE MEDICINE OF ASSAM.

To the Editors of THE LANCET.

SIRS,—The medical men in this district have recently been asked to record on forms provided by the Government authorities any cases of cancer that may come under notice. This has reminded me that during an experience of several years in Assam I have never once diagnosed a case of cancer of any description, neither have I ever heard of such a case. My practice has comprised the supervision of the health of many thousands of coolies from different parts of India and natives of Assam and adjoining countries. This complete absence of a disease so common in other parts of the world I think is worthy of note, though, of course, this fact must be well known to any medical man who has practised in Assam.

Another affection which I think one would certainly expect to be common in a tropical country is also extremely rare in Assam. I allude to hepatic abscess. The absence of this is the more curious since a very large percentage of the sickness and deaths occurring in the coolie population is the result of dysentery. This disease out here does certainly not run such a definite course as happens in other countries, neither is the temperature typical, but the stools are quite characteristic and have all the appearance of those of true dysentery. A medical man who has practised in Assam for 30 thirty years told me that he has seen only four or five cases of hepatic abscess. Enteric fever, too, is no doubt extremely rare. Apart from the absence or rarity of the diseases I have briefly mentioned we are afflicted with all the usual complaints of other countries with the addition of a few special diseases peculiar to this part of the world. Among them I may mention "sore-foot" and kala-azar. Malaria and ankylostomiasis are the two main causes of sickness.

I am, Sirs, yours faithfully,
D. J. DRAKE, M.R.C.S. Eng., &c.,
Medical Officer, Teypur Medical Association.

Thakurbarrie P.O., Assam, Nov. 19th, 1904.

"FUNCTIONAL" DISEASES AND THE PATHOLOGY OF CHOREA.

To the Editors of THE LANCET.

SIRS,—Dr. W. Howship Dickinson's article in THE LANCET of Dec. 10th, p. 1629, on certain diseases of the nervous system sometimes regarded as functional, admirably fulfils the purpose indicated by the author in his short *postscriptum* in that it compels us to take stock of our pathological and physiological knowledge in regard to those diseases with which it is mainly concerned. Besides this, if it is not an impertinence to say so, it is a communication marked by a certain charm of style which is not always to be found in scientific literature.

If I may be allowed to offer a few comments on the paper

I should like to say something about the use of the word "functional," as to the propriety of which Dr. Dickinson leaves us in some doubt. He admits that "it has its uses" and would apply it "provisionally to disorders of a temporary sort which have not yet displayed their morbid anatomy," but considers it "most obviously out of place when attached to such as persist unto death and produce it" (p. 1630). A little later he appears to sanction the definition of a functional disease as one "without a pathology, disturbance of action unattended with change of structure." Now, in all deference I wish to submit that this use of the word is too exclusively that of the morbid anatomist. That change of function implies a physical change of some sort is an axiom to which no exceptions should be allowed. But there are physical changes which cannot be appreciated by morbid anatomy alone, which is concerned only with such changes as can be demonstrated to the eye by some process of "cutting up" dead and diseased organs. A "functional" disease to the morbid anatomist is a purely negative conception. Pathology, however, is a kingdom of many provinces, among which morbid anatomy is but one, and though a large and important area is hardly at present so large or so important as that of pathological chemistry. From the point of view of the chemical changes which take place in the cells of the body during disease the term "functional" has a very positive meaning and I venture to think that this meaning—namely, a change in chemical action or structure—is the one which should occur to the mind whenever the term is employed. Far from impeding the advance of knowledge such a use of the word enables the mind to carry on its inquiries at the point where morbid anatomy leaves off and suggests investigations on new lines and by other methods.

Chorea offers, to my mind, an excellent example of functional disease, but *not* of a disease without a pathology. The morbid anatomy does not tell us much, as the lesions described may well be secondary or symptomatic and not causative in character. Even allowing that all cases of chorea are not due to the same cause, it seems most probable that many, if not most of them, are like tetanus due to a specific micro-organism—namely, the micrococcus rheumaticus described by Paine and Poynton. Like tetanus it is a disease characterised by muscular contractions, and though these contractions do not appear in so definite an order or in such regular degrees of intensity, yet the occurrence of hemichorea and chorea limited to certain groups of muscles indicates the definite involvement of certain cells in the motor tract. Now in tetanus it is known that the toxin has a special affinity for certain motor cells and enters into so firm a combination with them that in some cases no recovery is possible. In rabies, too, the very elusive poison can be neutralised by an emulsion of brain cells and thus rendered harmless to susceptible animals. May it not be that in chorea certain motor nerve cells are similarly poisoned but that the chemical change is of a less stable character, so that dissociation and recovery are generally possible?

This is a view which has for some time been present in my mind and doubtless in the minds of many who have considered the question. It serves, I think, to illustrate the sense in which the term "functional" should be used in pathology, not as a pure negation but as expressing the positive idea of changes which are none the less physical in that they cannot be demonstrated by the ordinary methods of the dead-house or even by the more refined "cutting up" which is necessary for microscopical examination.

I am, Sirs, yours faithfully,

J. M. FORTESCUE-BRICKDALE, M.A., M.D. Oxon.

Clifton, Dec. 12th, 1904.

THE EVOLUTION OF MAN'S DIET.

To the Editors of THE LANCET.

SIRS,—In his kind reference to my papers on the Evolution of Man's Diet, recently published in THE LANCET, Dr. J. Sim Wallace (in THE LANCET of Dec. 17th, p. 1751) throws doubt on my contention that man "has lost the power of digesting in the unprepared state all but the very choicest varieties of wild vegetable food." He believes, on the contrary, "that man has it in his power to become able to digest or to cope with cellulose to all intents and purposes as efficiently as the anthropoid apes," and even hints that man and the apes differ but little in respect of digestive capacity. Without following Dr. Wallace in the *a priori* arguments he advances in favour of this view, I will content myself with referring to the great biological fact that every species tends to alter in correspondence with alterations in its environment. Now, the diet of man and his homo-simian ancestors has been undergoing a steady change since anthropoid times—i.e., for many thousands of generations, and we may therefore safely conclude that the digestive capacities of man differ very decidedly from those of his anthropoid ancestors. Observation confirms this deduction. It would be quite impossible for man to subsist on the natural diet of any of the existing anthropoids. Much of the vegetable food which these latter consume is by reason of its natural density, to say nothing of its bitter and acrid taste, quite unfit for human consumption. This density is, of course, due to the presence of an abundance of tough cellulose, a fact which renders it highly probable that the anthropoid can cope with cellulose more efficiently than can man. Dr. Wallace appears to assume that the rôle of cellulose in the alimentary tract is a purely mechanical one, for he says, "if we consider the simple fact that cellulose is not digested chemically in either man or anthropoids practically all we have to consider is the ability to masticate food and to transmit it. Thus, all that is required is a more muscular intestine and especially a more efficient masticatory apparatus." I cannot, however, admit the proposition that "cellulose is not digested chemically in either man or anthropoids." It is true there is no evidence of the secretion either in man or the anthropoid, or indeed even in the herbivora, of a cellulose-dissolving ferment. There is, however, evidence that in all of them cellulose in its less dense forms is dissolved by bacterial agency, and it has been shown in the case of the herbivora that the solution is largely effected by means of a vegetable ferment developed from the vegetable food itself—a ferment identical with that which the living plant employs when a solution of cellulose is demanded—e.g., during the ripening of a fruit.

But while I am unable to accept all Dr. Wallace's deductions I am heartily with him in his main contention that man is capable of coping with much coarser vegetable foods than the pernicious paps and messes with which the stomach of the young human is nowadays so wantonly deluged. It is, as Dr. Stuart Tidey truly remarks,[1] largely in consequence of this system of dietary that the digestive tract of us moderns is so often "a pathological specimen from end to end," that "the buccal cavity exhibits a picture of ruin and decay ..... the anal orifice is girt about with a ring of piles, while the intervening portion with its accessory organs affords a kaleidoscopic picture of pathological changes." If physicians could be got to realise the importance of providing the jaws, teeth, and the muscular coats of the digestive tract with adequate work an untold amount of disease and suffering would be averted.

I am, Sirs, yours faithfully,

Wimpole-street, W., Dec. 18th, 1904. HARRY CAMPBELL.

TREATMENT OF ACUTE PNEUMONIA BY CONTINUOUS COUNTER-IRRITATION WITHOUT VESICATION.

To the Editors of THE LANCET.

SIRS,—The treatment of pneumonia by various forms of counter-irritation is of very old standing. Linseed-meal poultices with and without mustard, blistering fluid, iodine liniment, and similar preparations have been applied to the chest with success but with the great disadvantages of more or less severe vesication or some other drawback. The following simple method of applying counter-irritation without vesication has in my hands proved itself to be an excellent system of treatment. After making a thorough examination of the chest I sponge the affected side over with warm water, adding some alcohol (either rectified spirit of wine or whisky) which I always do to increase the irritation unless the skin be very tender or sensitive. Then I quickly apply thermogen or a capsicum pad which are much more easily applied and so do not exhaust the patient. The effect is to produce a dry glowing warmth and pain is relieved almost immediately. The application is never sticky or cold, it can easily be destroyed when required, and is perfectly cleanly. It is necessary only to replace it once or twice in the 24 hours, the medical attendant knowing that the patient's

[1] THE LANCET, Dec. 17th, p. 1749.

strength is not being unnecessarily lowered by continuous applications every few hours and that there is no danger of exposure to sudden change of temperature or draughts. From a patient's point of view, which is really of most importance, it is very comfortable, as it is neither weighty, wet, nor sodden, but is dry and gives a glowing warmth that relieves pain. The patient is also saved the fatigue incidental to an application that requires renewal every few hours.

I am, Sirs, yours faithfully,

ARNOLD M. ST. JOHN WRIGHT, L.S.A.

Chester, Dec. 18th, 1904.

THE "POLICE CALL."

To the Editors of THE LANCET.

SIRS,—Having read the article in THE LANCET of Dec. 17th, p. 1742, regarding the responsibility of the police for payment of services rendered at their request in cases of street accidents, &c., I may be allowed to recall a recent experience of my own.

A policeman called and informed me that a man had been knocked down by a tram-car and requested me to accompany him to the scene of the accident. Having received his assurance that a certificate would be sent to me in due course and having noted the constable's number for future reference I went and did what was necessary for the patient. Next day the policeman called again but instead of giving me the promised certificate he informed me that a friend of the injured man, whose name and address he gave me, had undertaken to pay my fee and that therefore no certificate would be sent to me from the police station. I questioned the right of the police authorities to refer me for payment to a man who was quite unknown to me but expressed my willingness to wait a few days before making formal application for my certificate. I reminded the policeman of his promise when he summoned me to the accident; also of the fact that I had his number recorded in my note-book.

A week passed and, needless to say, the obliging friend made no sign. I therefore sent a strongly worded letter to the inspector on duty informing him of all the circumstances and questioning the policeman's right to shift his responsibility on to other shoulders. My certificate for payment from the police fund was sent immediately with a note apologising for the delay. Since then I have in all cases obeyed the summons of a policeman only on the distinct understanding that I should receive my certificate from the authorities and have invariably received it.

I am, Sirs, yours faithfully,

T. R. HENDERSON, M.B. Edin.

Balham, S.W., Dec. 18th, 1904.

THE PRE-CANCEROUS STAGE OF CANCER.

To the Editors of THE LANCET.

SIRS,—I think we are entitled to ask for some further information on this subject, for it seems to convey nothing unless it means that every growth must be removed as soon as found in case it may become malignant and that every tear of the uterine cervix is to be sewn up. It is at least reasonable to suppose that a prolonged irritation of a part, due to the presence of a tumour or otherwise, may lessen its vitality and in this way be apparently the exciting cause of malignant disease in a suitable subject, but cancer of the penis may come to the circumcised and the uncircumcised and epithelioma of the lip is not unknown in those who do not smoke.

It is another matter when we come to the instruction of the laity in the early signs of cancer. Here we deal with no hypothetical pre-cancerous stage, but with the definite disease. Mr. C. Hamilton Whiteford advises that the public should be educated in the early signs. Surely this is going a great deal too far, for what would be the result—a graduate in first aid would consider that if he were able to say that a growth was a cancer, he could say equally well what were not cancerous, and in most cases it would be as safe to toss up a coin. What the public require to be taught is to seek advice early and not to think that they know when to ask competent advice and when not. We require to begin, however, with many medical men, who do not investigate when a simple diagnosis seems to be a likely one and who, when a patient says "I have got bleeding piles, doctor," give an ointment without troubling to see if there is anything else. I allow that the patients frequently do not see the necessity of an examination. Mr. Whiteford also says that the laity must be educated in the prevention and cure of cancer. We get enough of the cure in the daily papers, but I would like to hear of some really practical method of prevention.

I am, Sirs, yours faithfully,

Dec. 19th, 1903. SKENE KEITH.

MOSQUITOES ON BOARD SHIP.

To the Editors of THE LANCET.

SIRS,—In his able categorical reply to the criticisms of Professor Baccelli, whose disparagement of the work of the modern investigators of tropical diseases is amazing, Dr. C. Christy regards the presence of malaria on vessels as due to its transmission by passengers off river steamers. He also, it is true, refers to the presence of both *culex* and *anopheles* on steamers between Karachi and Trieste. While diffident of making the suggestion to a medical man so closely associated with work in malarial countries I am tempted to ask whether Dr. Christy has not overlooked, at any rate in his letter, a very important breeding ground of these gnats on board ship—namely, in the residue of rain water in the ship's buckets, in fresh-water tanks, boats, or other receptacles insufficiently scrutinised on the official rounds of inspection. I have travelled on a steamer from estuaries in tropical Queensland to Plymouth Sound with mosquitoes active in the saloon the whole time on a voyage that lasted nearly 80 days, and as Major R. Ross states that the larval stage may last only a week in a hot climate it is probable that some of these insects completed their metamorphoses on the voyage. A more efficient scouring of all likely receptacles of fresh water would preclude such unrecorded births at sea.

I am, Sirs, yours faithfully,

Bournemouth, Dec. 17th, 1904. F. G. AFLALO.

REX *v.* JOHN DALE TUCKER: THE POWERS OF THE GENERAL MEDICAL COUNCIL.

To the Editors of THE LANCET.

SIRS,—This man, an unqualified practitioner, was tried at the recent Liverpool assizes on a charge of attempting to obtain money by false pretences and being found guilty was sentenced by Mr. Justice Phillimore to four months' imprisonment. The circumstances of the case are so far out of the ordinary that on behalf of the prosecutor, Dr. David Lauder Lindsay of this city, we write to place them before you, believing that they will be of some interest to the medical profession. Briefly the facts are as follows.

In April of this year Tucker came to Liverpool and in the name of Dr. Henry Gould, a duly qualified man, bought a practice from Dr. Wright of this city, for which he gave £350. He carried it on until the month of August when he entered into negotiations, still in the name of Dr. Henry Gould, with our client, for the sale of the practice to him. He informed Dr. Lindsay that he, Tucker, was Dr. Henry Gould, a duly qualified man, and had given £650 for the practice and had been in it for 12 months. An agreement was accordingly drawn up but fortunately just before the same was signed, owing to information which came into the possession of the vaccination officer of the district in which Tucker practised, he was brought up at the police-court and charged with forging two death certificates in the name of Dr. Henry Gould, when he pleaded guilty and was fined. Dr. Lindsay of course repudiated all negotiations and laid an information against Tucker, upon which he was arrested and in due course committed for trial and convicted.

Having regard to all the facts at our disposal we considered the case one which should be laid before the General Council of Medical Education and Registration, as we did not think it right that a young practitioner should be put to the great expense of prosecuting criminal proceedings with the object of punishing a man whose offence consisted in posing as a duly qualified man. We therefore saw the Registrar of the Council and put the whole facts before him, when he seemed by no means inclined to give any assistance. He intimated, however, that if we were to lodge the facts with a written statement he would lay them before the Council. This we accordingly did, sending him a copy of the depositions and also all the facts at our disposal. In due course we received a letter from the Registrar that

the Penal Cases Committee had consulted the Council's legal advisers with a result that they were unable to assist Dr. Lindsay in the matter. Fortunately for Dr. Lindsay, we then approached the director of public prosecutions who recognised that the case was one of importance both to the medical profession and also to the public at large and at once undertook the conduct of the prosecution.

The above being the facts, we think it desirable that the medical profession should know where they stand with regard to such cases. It appears to us to be an anomaly that where you have a case where an unqualified man has been posing in the name of a qualified practitioner, signing agreements in that name, and entering into obligations more or less onerous, no help should come to the injured medical man from the central body but that he should be left to conduct any prosecution personally, whilst from the public point of view the anomaly is still greater. In the present case an unqualified man carries on a practice in Liverpool from April last right up to the trial (Tucker being on bail), while patients in a thickly populated district were going daily to consult him under the impression that he was a regular practitioner. When all these facts are ascertained and fairly placed before the Medical Council they are obliged under the direction of their legal advisers to decline to take any steps in the matter. We cannot help thinking in the interests of the profession and of the public at large it is high time that power should be given to them to enable them to take action in such a case as this.

We are, Sirs, yours faithfully,

Liverpool, Dec. 20th, 1904. SAMPSON AND CO.

CHOLERA AND PLAGUE IN THE NEAR EAST.

(FROM THE BRITISH DELEGATE TO THE OTTOMAN BOARD OF HEALTH.)

THERE has been a considerable recrudescence of cholera in Asiatic Turkey and the neighbouring regions since the date of my last letter which appeared in THE LANCET of Nov. 26th. At Bagdad no cases of the disease were observed between Oct. 29th and Nov. 20th. On the latter date a single fatal case occurred and between the 20th and the 30th there were five cases and as many deaths. Basra, which is believed to have been free from cholera since August 19th last, has again become infected. Two cases and one death occurred there on Nov. 26th and four more cases with one death in the next two days. At Bedra and Zorbatia, mentioned in my last letter, the epidemic seems to have come to an end. But it has reappeared at Amara where (or in the neighbourhood of which) it has caused 26 fatal cases among nomad tribes; at Hay, where ten fatal cases were recorded between Nov. 7th and 10th; and at other places. In the vilayet of Mossul cholera has been particularly active. At Mamouret-el-Hamidie 29 cases and 24 deaths were observed between Nov. 8th and 23rd; at Rania (or Ranieh) there were 28 cases and 12 deaths between Nov. 9th and 13th and 82 cases with 69 deaths between the 13th and the 28th. At Guré, near Rania, 13 cases and three deaths occurred in the week ending the 28th. The disease has also been reported, but without details, from Gulamber and it is said to be causing some ten or 12 deaths daily among the Zenkibir tribe near Sulahieh, in the *eaza* of Mossul. At Deir-Zor, an important centre of traffic on the Euphrates, 13 cases with nine deaths occurred between Nov. 16th and 23rd. Thence it has spread to Rif and Memtah, two villages on the Aleppo road, eight hours distance from Deir-Zor. The disease here is spoken of as "suspected cholera" and no figures have been furnished. It has also spread to Cheh (? Sheikh), described as a village 30 hours distance from Deir-Zor, on the banks of the Euphrates and close to Aleppo. There can be no question that Aleppo, which has apparently been free from cholera for nearly a year, is again threatened by a reappearance of the disease. In the important towns of Penjvin, Suleimanieh, and Revendouz, all near the Persian frontier, cholera has again become seriously epidemic. At Penjvin, 80 cases with 60 deaths occurred between (?) Oct. 4th and 8th. News is lacking as to the subsequent behaviour of the disease here, save that two fatal cases occurred on Nov. 3rd. At Suleimanieh four cases with three deaths were reported on Nov. 3rd and 4th, 16 cases with eight deaths between the 5th and the 18th, and as many as 70 cases with 36 deaths between the 18th and the 28th. Finally, at Revendouz 51 cases with 36 deaths occurred between Nov. 22nd and 28th.

There is still difficulty in obtaining accurate information regarding the course of the epidemic on the Persian side of the frontier and such news as is obtainable is not of very recent date. Writing on Oct. 18th the Ottoman sanitary delegate on the Tehran Board of Health states that over 400 deaths were then daily occurring at Tabriz, where the weather was unusually hot and a south wind was prevailing. The disease had spread to many villages in the neighbourhood and the governor and many of the inhabitants had fled. From recent Russian sources it appears that cholera has since almost disappeared from Tabris. At Mohamerah, on the Shatt-el-Arab, the disease was said to have reappeared but this has not been confirmed. At Meragha many deaths were occurring daily. At Resht and Ghilan an improvement was recorded, only sporadic cases being observed. At Meshed 15 deaths were occurring daily. This was spoken of as "an enormous number for so small a place," but though Meshed may be a small town in itself it should be remembered that it is a great centre for Shiah pilgrims who go in very large numbers to worship at the shrine of the Imam Riza. From Meshed cholera was reported to have spread northwards to Deregher, where it was said to be raging. Sporadic cases were occurring at Ispahan and at Nain and Meshal. The disease was still present in Yezd but the numbers were unknown. It was reported to have disappeared from Kermanshah but was still prevalent on the roads between Hamadan, Saveh, and Sultanabad, where it was causing a high mortality. It had reappeared at Shuster and broken out at Mashur. At Kazvin and Astrabad sporadic cases with low mortality were occurring. At Kashan the disease has reappeared. An improvement was reported from the regions near the Persian Gulf shores but the report adds that in the Doshestan (? Dushtistan) region and the valley of Rou-Hillai about 6000 deaths from cholera had been officially recorded; while in the town of Shiraz the mortality was put down at as many as 13,000. It is further added that at the end of September cholera was raging in the following places:—Tanguistan, Kovisé, Ahéans, Beloughé, and Tchahpir. (I quote these names as they appear in the report in question which is written in French; I have been unable to identify the places on the maps at my disposal.)

On Russian territory the following has been the recent course of the epidemic. In Transcaspia the disease has been present only in the military station of Serakhs, where ten cases and eight deaths occurred in the week ending Oct. 31st (New Style); four cases in that ending Nov. 7th; and three cases between the last date and Nov. 16th. At Baku 14 cases and seven deaths were recorded in the week ending Nov. 1st; six cases and two deaths in that ending the 8th; and seven cases in the week ending the 16th. Cases of cholera have also occurred in the naphtha works at Balakhani, near Baku, and in the village of Yurdjivan, in the Shemakha district. In three villages in the Djevat district of the Baku government 20 deaths from cholera have taken place, and ten cases are reported from two nomad villages near the Russo-Persian frontier. At Tiflis five cases occurred between Nov. 23rd and 27th and five more cases on the 29th. In the Erivan government there has been a very serious extension of the epidemic, particularly in the districts of Nahitchevan and Shararo Daralagoez. The following figures have been reported for this government, in telegrams received from the Ottoman Consul-General at Tiflis:—

From Nov.	4th to Nov.	7th...	132 cases	.....	80 deaths.
,, ,,	8th ,, ,,	14th...	133 ,,	.....	53 ,,
,, ,,	15th ,, ,,	21st...	? ,,	.....	? ,,
,, ,,	21st ,, ,,	28th...	915 ,,	.....	733 ,,

In Astrakhan and its neighbourhood five cases with two deaths occurred between Oct. 26th and 31st, three cases between Nov. 1st and 3rd, and none since. At Tchagan, in the Astrakhan district, seven cases with four deaths were reported between Oct. 26th and 31st; and between Nov. 8th and 16th there were 16 cases in the village of Teliatchi, on the shores of the Caspian, and one case in the Cossack station of Ataman. A few cases have also occurred at Saratof, at Tsaritsyn, at Khvalinsk, at Uvek, and other places in the Saratof government. Finally, in the

government of Samara there were 75 cases with 63 deaths between Oct. 24th and 28th; 26 cases in the week ending Nov. 8th; and 64 cases between that date and the 16th. Most of these cases occurred in the district of Nikolaief but there were also cases in the districts of Novo-Uzensk and Samara. A single fatal case has been reported from Ufa, in a group of prisoners arriving from Samara.

No further cases of plague are reported from Smyrna but a single imported case recently occurred on an Austrian steamer which arrived at Beirut from Alexandria. The diagnosis was confirmed bacteriologically and the patient is now convalescent.

Constantinople, Dec. 7th.

SANITARY LEGISLATION IN THE UNITED STATES.

(FROM OUR SPECIAL SANITARY COMMISSIONER.)

THE great trouble in America is the want of centralisation and uniformity. The advantages of local autonomy are many and manifest. No one doubts that the sturdy burghers of the Middle Ages in obtaining charters, liberties, and franchises for their cities rendered great service to the cause of progress. There were, however, no railways in those days. Travelling was dangerous and but few ventured on long journeys. Not only each nation but each district was self-sustaining. Exports and imports were restricted in the main to articles of luxury. To-day we need, especially in matters relating to public health, not only national but even international laws. But in their legislative evolution the United States do not yet seem to have attained a full appreciation of the necessity of national laws. At Washington I experienced a curious sense of solitude, of isolation, and felt as if lost in space. Other large towns and centres had at least a life of their own. Washington and the small District of Columbia, as already explained,[1] possess no elected municipality or State legislature. This fact might easily be forgotten, just as the Municipal Council of Paris or the County Council of London may be forgotten by those who visit these capitals so as to come in touch with the national life of France or of Great Britain. In London or Paris it has always seemed as if it was possible to place a finger on the pulse of the nation. For sanitary legislation, for information in regard to what is occurring in any part of the country with respect to an epidemic or any other important sanitary matter, there are the special departments at the Ministry of the Interior in the Rue Cambacérès or at the Local Government Board in Whitehall. At Washington whatever approach to a national public health administration office or bureau there may be hides itself under the ridiculous title of Marine Hospital. This forcibly recalls the blue-bottle fly, so named because it is not blue and because it is not a bottle. Washington is not a seaport town, there is no marine at Washington, and at the building in question there is not the smallest trace of a hospital. Nevertheless, it is called the Marine Hospital building and official documents relating to health questions are issued by the Marine Hospital Service. The spread of yellow fever during the year 1878 in the States of Louisiana, Mississippi, Alabama, and Tennessee did serve an educational purpose in showing the necessity of some central and national control over local legislatures. A Bill was then passed by the Congress of the United States establishing a national board of health. Evidently, however, this was only what may be described as panic legislation, for the law was very soon abrogated and it was thought sufficient to establish a national public health bureau in connexion with the Marine Hospital Service.

Perhaps if the word "quarantine" had been used instead of the word "hospital" it would better explain the situation. It seems as if the Government of the United States did not dare to appear in any way desirous of interfering with the sanitary legislation of these various States. The Government of the United States apparently shrinks from dealing with its own citizens. On the other hand, it has no hesitation in legislating with regard to all other States and nations so long as they are not comprised within the Union which it is its business to govern. Consequently, while repudiating all intention of interfering with the State legislatures the central or Federal Government has sent its officers and soldiers to the different seaport towns. These functionaries proceed to these places, lay hands upon foreigners who arrive, and impose upon them laws and regulations enacted by the central government. Thus the United States Federal Government has established 39 quarantine maritime stations. These are all governed in the same manner; but there are three States which have maintained their own quarantine system which is imposed over and above the measures taken by the national government. Indeed, the law issued by the Treasury department and enforced by the Marine Hospital Service is regarded as the minimum. The local governments of the States in which the ports are situated may add more stringent precautions but they cannot prevent or lessen the severity of the measures taken by the national—that is, Federal—Government.

This legislation, at first directed against the foreigner, has fortunately served as the thin edge of the wedge to obtain a commencement of legislation against the American himself. It was very well to urge that yellow fever might be brought from Cuba or small-pox from Europe but such evils might likewise be conveyed from one State to another within the Union. Therefore, and in time, the law was gradually amended and extended, so that now the "Supervising Surgeon-General of the Marine Hospital Service shall" see to the "enforcement of the rules and regulations made by the Secretary of the Treasury to prevent the introduction of contagious or infectious diseases into the United States from foreign countries and into one State or territory or the District of Columbia from another State or territory." Such rules are to operate uniformly and additional rules may from time to time be issued. If the municipal or State authorities do not apply such regulations efficiently the national Government reserves to itself the right of appointing its own officials who will proceed to the place in question and enforce due observance of the rules. Then another step was taken towards unification. All State and municipal authorities and port sanitary authorities are now ordered to issue weekly reports on the sanitary conditions of ports and places within the United States and must also with the voluntary coöperation of all public bodies and associations and of private persons procure information relating to the climatic and other conditions affecting public health. Thus the nation as a nation claims at least the right to inquire, to know, and to record what is taking place within each State. But there are no funds available by which the Federal Government could, like our Local Government Board, send experts to various localities to hold courts of inquiry and to report to the Federal Government.

It may also be noted that there are laws which give the Supreme Court of Justice, sitting at Washington, certain powers over local State courts. The Supreme Court may order, for instance, the holding of trials in some other than the usual town if an epidemic prevails. For the same reason the evacuation of a prison may be ordered and the conveyance of the prisoners to some other jail and town. But what is still more to the point is the Act of March 27th, 1890, which confers on the Supervising Surgeon-General of the Marine Hospital Service, under the direction of the Secretary of the Treasury, the right to promulgate such rules and regulations as in his judgment may be necessary to prevent the spread of cholera, yellow fever, small-pox, or plague from one State or territory to another within the Union. Any person violating such rules may be punished by a fine of not more than $500 and not more than two years' imprisonment. In practice precautions are taken mainly in regard to ships coming from abroad but the principle that such regulations may be applied within the Union itself is admitted. The point, however, on which British or, in fact, European sanitarians would insist is not so much the precautions necessary to prevent travellers spreading disease from one country or State to another country or State: they would insist that by far the most important matter is the precautions taken to prevent the outbreak of any such disease. This depends on the intelligence and activity of the local authorities, and such authorities are not always particularly intelligent. They are apt to be supine and many local interests and intrigues, together with the fear of displeasing the local electors, combine to make them defer the carrying out of even the most obviously necessary sanitary measures. Therefore some form of pressure from a greater and a higher authority is necessary. It is the absence of such authority, with clearly defined and widespread powers,

[1] THE LANCET, Nov. 19th, 1904, p. 1451.

which deprives Washington of the appearance of a capital. As I wandered along its very broad and half-empty streets or penetrated the Government offices where the officials anxiously disclaimed any responsibility or power to interfere with the affairs of the States that constitute the Union, I felt overwhelmed by the sense of surrounding emptiness. If I am intrusted with a mission or an investigation in France, Spain, or Italy I first of all, and quite naturally, proceed to Paris, Madrid, or Rome; but in America in similar circumstances there would be no particular necessity to go to Washington. Nevertheless, the need of some centralisation in regard to sanitary administration is so obvious that, though centralisation is opposed to the spirit of the American nation and constitution, it is, as indicated above, being gradually brought about, though in a somewhat circuitous manner.

Perhaps more has been done by the Department of Agriculture than by what should be called the Department of Public Health. Indeed, it would seem as if there was more readiness to legislate for the protection of property than of human life. Thus we have a law of March 3rd, 1891, entitled "An Act to Provide for the Inspection of Live Cattle, Hogs, and the Carcasses and Products thereof which are Subjects of Inter-State Commerce and for Other Purposes." By this Act and the amendments approved on March 2nd, 1895, the Federal Government may send its agents to inspect and to control slaughter-houses, canning, salting, packing, or rendering establishments, the products of which are to become subject of inter-State or foreign commerce. This is most important, particularly as the meats canned and preserved at Chicago are exported to every part of the world. It seems strange, however, that the Federal Government should have the right to prevent the slaughtering of cattle in a town or State if the rules which it has drawn up are not observed and yet the Federal Government has not the right to prevent a State enacting laws, as is the case with the State of Pennsylvania, by which people are forced to drink unfiltered water that obviously contains crude sewage. Then when, as a consequence of this abomination, epidemics of typhoid fever follow each other in rapid succession and thousands upon thousands of lives are uselessly sacrificed, as is amply demonstrated by the official statistics, the Federal Government sits with folded arms, says it has no right to interfere, and does not even possess the means of ordering an official inquiry to be held.

Nevertheless, the necessity of national control over local affairs is felt more and more and after putting cattle and meat under such supreme surveillance there is Section 4 of an Act of Congress dated July 1st, 1902, which is enacted "to regulate the sale of viruses, serums, toxins, and analogous products in the District of Columbia, to regulate inter-State traffic in the said articles, and for other purposes." In accordance with this Act regulations approved on Feb. 21st, 1903, were put into force on August 21st, 1903. These regulations forbid the sale of vaccine lymph, antitoxins, serums, and similar articles unless produced by licensed manufacturers working under the surveillance of inspectors appointed by the Federal Government. Of course, this inspection extends to the stables and every other department. Thus we get the principle of national control in certain matters of detail, such as the making of lymph and the canning of meat, but there is no means of forcing a town to have a proper water-supply or a proper drainage system. That the municipalities are not always effective administrators in such matters is amply demonstrated both by European and American experience. This should suffice to inspire the United States Congress with the desire to enact a public health law that shall apply to every part of the Union. In Europe the tendency is to assimilate the factory and sanitary legislation of the different countries and this should be a much easier matter between the various States which compose the United States of America.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Health of Calcutta.—The Plague Epidemic.—The Health of the Jails in India.—The Sanitation of Indian Cantonments.

IN the recent resolution of Government on the Administration Report of the Calcutta Municipality for the year 1903-04 it is very noticeable that the work of the health department is barely referred to. The great scheme of suburban drainage now under construction belongs to the engineering department, as also does the scheme for the conversion of the intermittent water-supply to a constant one. The reference to the ridding of Calcutta of many of the objectionable and insanitary "bustis" is a compliment to the work of the plague department. For the absence of precise figures to support the assertion that there has been an appreciable diminution of malarial fever in Calcutta during the last few years and upon which the special committee of the corporation complained it has appeared necessary to refer in the resolution to the report of the sanitary commissioner for Bengal. No comment is made concerning the food-supply, overcrowding mortality statistics, nuisances, vaccination, or the registration of deaths. Considering how much demolition has been going on it is surprising that no reference was made to the absence of provision for the displaced populations and that the extraordinary fatality amongst infants and the faulty registration of births were not even alluded to. The increasing death-rates from phthisis, pneumonia, bronchitis, and tetanus are particularly noticeable as well as the apparent decline in the number of deaths from asthma, liver disease, and spleen disease. I should like to have seen some notes made on these points in the health report which appears to me as a very meagre account of the work of an important department.

The plague mortality throughout India for the week ending Nov. 19th again fell, being reported at 14,115, as against 15,197 for the previous seven days, and as compared with 18,329 for the corresponding period of last year. Bombay City had 47 cases, against 79; Bombay Presidency 7124, as against 7603; Madras Presidency 386, against 398; Bengal 404, against 363; the United Provinces 2783, against 2476; the Punjab 1515, against 1357; Central Provinces 478, against 450; the Mysore State 565, against 557; Hyderabad State 474, against 925; Central India 278, against 364; and Kashmir 44, against 33. No mention is made of Poona city, which recorded 801 cases during October and in which the disease has been raging severely.

The review by the Government of India upon the reports of jails lays stress upon the improved rate of mortality. For 1903 it was 21·38 per 1000—a great change from 20 years ago, when it was 37 per 1000. It is obvious that no just comparison can be made with the rate amongst the general population so that the reference is useless. Malarial fever is the great cause of mortality and about 8 per cent. of the prisoners are returned as having suffered during the year. Government naturally does not accept the view that everything has been done to check its ravages. The punishment of solitary confinement seems to be having a wholesome effect and corporal punishment has been less frequently resorted to.

The sanitation of Indian cantonments is a matter which ought not, I consider, to be left any longer to the military authorities. In every cantonment there is always a large civil population which generally outnumbers the military and the native quarters constitute a permanent source of danger to the health of the troops. There is little to choose between the sanitary condition of the native quarters of a cantonment and that of an ordinary Indian town. I cannot but think that the native quarters should be kept away from, and entirely distinct from, the military quarters. If that were so less would be heard of the difficulty concerning sewage removal and disposal, there would be secured an improved state of surface purity, and the water-supply would not be so liable to contamination. The trench system of conservancy is only fit for a temporary camp not for a permanent barrack. Crude sewage should never be disposed of within the limits of the cantonment. There are many difficulties concerning the best methods of collection and removal where water in abundant quantity is not available. As cantonment funds are limited it is impossible under present conditions that the necessary expenditure for sanitary improvements can be incurred. On the other hand, I hold that the civil residents ought to be in the hands of a civil power. Every care may be taken to supply the troops with pure water and to have the regimental lines thoroughly scavenged, but so long as the existing form of sewage-disposal is continued and native quarters with a crowded, dirty population continue to be permitted in close proximity to the military lines there will continue those preventable diseases which cause such havoc in the British army.

Dec. 3rd.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Precautions in a Dangerous Trade.

A FEW days ago a firm of chemical and colour manufacturers was summoned under the Factory and Workshop Acts and the case was heard at the Manchester police-court on Dec. 14th. In one of the processes white lead was an ingredient in the colour manufactured. It was stated that the defendants had not obeyed the rules requiring that respirators, overall suits, and "approved sanitary drinks" should be provided where dry white lead was used. The chief inspector, Mr. Lewis, had furnished a recipe for a drink consisting of "sulphate of magnesia, two ounces; water, one gallon; and essence of lemon sufficient to flavour." One of the firm said that overalls and respirators were given to the men as soon as he heard they were necessary, that only one man had to use the dry lead and that on rare occasions, and that there was only another man in the department. "It would be difficult to carry on the business if everyone had to be muzzled with respirators." He gave the men a bottle and told them to drink the contents. The inspector said that under the rules it was the duty of the defendants to see that the men took the drink. He evidently has not the fear of the lecturer at the Manchester Physical Health Culture Society, whose views you gave last week, before his eyes. The stipendiary pointed out that whilst there was a penalty for a workman refusing to wear the respirator and other articles, nothing was said about refusing to take the drink. However, the defendants were fined 10*s.* and costs, as the magistrate considered there had been neglect. Such cases as these show some of the difficulties in carrying out the precautions necessary in dangerous trades. Sometimes the masters are careless and sometimes the men are stupid and obstinate and will not adopt protective methods. And no doubt the wearing a respirator is unpopular and uncomfortable. There is often great difficulty in works where lead is used to get the men to wash their hands before eating and painters do not often show much care in safeguarding themselves from the dangers of their calling.

Poisoned by Gelsemium.

At the assizes at Leeds on Dec. 10th a grocer was charged with the manslaughter of a girl. The story as reported is curious, for it is to the effect that the latter went to the shop to purchase fuller's earth. The grocer said he did not keep it but advised her to try witch-hazel. In mistake he sold her gelseminm and the girl died shortly after taking it. Mr. Justice Darling said there was no evidence of criminal negligence and the jury by his advice returned a verdict of not guilty. The report is probably imperfect, for fuller's earth would certainly not have been bought to take internally, so that there seems to be no connexion between it and the witch-hazel or gelsemium.

Outbreak of Small-pox.

On Dec. 16th Mr. H. E. Gough, medical officer of health, reported an outbreak of small-pox at Barnton, in the Northwich rural district. On Dec. 8th a mother and infant, both unvaccinated, were notified as having small-pox and were taken to the hospital. Another child from the same house was found to be affected and the father was convalescent from the disease. Until the third week of his illness he had been going to his work. There were three other small children in the house and the whole family was removed to the hospital. On the following day a woman and her infant living next door but one had to be taken to the hospital. This infant had been recently vaccinated and had only a slight attack, while an unvaccinated child died. On the 11th another case was notified and removed. From the way in which the outbreak originated Mr. Gough thought other cases might occur and asked for the appointment of an emergency committee with power to erect new wards if occasion should arise. It is stated in this morning's papers that small-pox has again broken out at Darwen in Lancashire. Seeing that small-pox is controllable and preventable to so great a degree one wonders how long the people of this country will allow the antivaccinationists to prevent effectual means being taken to keep it in check.

Housing of the Poor in Manchester.

A Local Government Board inquiry was held at the town-hall on Dec. 7th with regard to an application of the city council to borrow £13,780 for the purchase of land in Cheetham Hill-road and the neighbourhood. It was intended to be utilised partly for housing purposes, partly for the purposes of the education committee, and also for the widening of Cheetham Hill-road. The application was supported by members of the council, by the city surveyor, and by Dr. J. Niven, the medical officer of health. He said that in the vicinity of Red Bank, which, by the way, is largely occupied by Jews, the death-rate from 1900 to 1902 was 49 per 1000, as against something like 20 per 1000 in other parts of the city. The housing problem is not easily solved in Manchester unless at great cost.

Dec. 20th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

Winsley Sanatorium.

ALTHOUGH the formal opening of the Winsley Sanatorium near Bath will not take place until the spring of next year patients are already being received for treatment. At a recent meeting of the subscribers rules for the regulation of the institution were under consideration and one which had been framed by the committee of management to define the qualification of governors was vigorously opposed by the 16 representatives of the corporation of Bristol. The committee proposed that a governor's qualification should be a donation of £21, or a donation of five guineas together with an annual subscription of one guinea, or an annual subscription of two guineas. The Bristol corporation has proposed to give a donation of £5000 and to subscribe £1300 annually and is entitled to have 20 patients in the sanatorium at one time. These sums are calculated on the basis of the capital expenditure having been equal to £250 per bed, and of the estimated annual expenditure being £65 per bed. The corporation representatives suggested that the votes of governors should be cumulative and that a subscription of two guineas should entitle to one vote, of five guineas to two votes, of ten guineas to three votes, of 50 guineas to four votes, and of each 100 guineas to six votes. In the end this proposal was rejected by 17 votes to 18, with the result that at the meeting of the corporation held on Dec. 13th it was decided to delay for the present borrowing the £5000 required for the capital contribution of the corporation. The Local Government Board had already sanctioned this loan and the corporation had been recommended by the health committee to spread the repayment over 20 years and to give an undertaking as desired by the Board not to part with its interest in the sanatorium before the expiration of 20 years.

Prosecution of an Unregistered Dentist.

At the Cardigan police court on Dec. 12th a man was find 20*s.* and costs for falsely taking and using the name of dentist without being registered in accordance with the provisions of the Dentists Act, 1878. He stated in defence that he had a certificate of proficiency from an American college.

West Wales Sanatorium.

The foundation-stone of the sanatorium for consumptives which is to be erected near Llanybyther for the counties of Cardigan, Carmarthen, and Pembroke, is to be laid on April 26th, 1905, by Princess Christian. Nearly £5000 have already been subscribed towards the building fund and about £200 yearly are promised for the maintenance of the institution. It has been decided not to proceed with the actual building until a yearly income of £600 has been assured and it is anticipated that liberal contributions towards this amount will be given by the three county councils.

The Medical Officer of Health of Glamorganshire.

The finance committee of the Glamorgan county council has recommended that the salary of the medical officer of health (Dr. William Williams) shall be increased from £750 to £900 per annum with an annual increase of £50 for the next two years. Dr. Williams has a travelling allowance of £200 yearly.

South Devon and East Cornwall Hospital.

At a meeting of the governors of the South Devon and East Cornwall Hospital, Plymouth, held on Dec. 13th it was decided to alter the rule of the institution referring to

legacies, so as to enable the committee to use all legacies and donations received during the year, if required, for current expenses and deficits from previous years, unless otherwise directed by the donors. This may be a wise decision, as increasing the invested capital of a hospital when there are accumulating deficiencies in the annual accounts does not seem to be a business-like proceeding. At the same time it must be hoped that the public subscriptions will not diminish owing to any mistaken idea that the utilisation of the legacy income will obviate the necessity of continuing subscriptions.

Dec. 20th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENT.)

Parliamentary Representation.

A MEETING of the graduates of the Universities of Glasgow and Aberdeen was held at the Holborn Restaurant, London, on Dec. 8th, to hear an address from Dr. William R. Smith, the Rev. Canon D. Reith being in the chair. It was subsequently moved by Mr. T. B. Browning, seconded by Dr. J. Nelson Matthews, and carried:—

That this meeting of graduates of Glasgow and Aberdeen Universities cordially endorses the candidature of Professor William R. Smith, M.D., and pledges itself to use its best endeavours to secure his return.

Nursing Home for Gentlefolk.

A nursing home for gentlefolk in connexion with the Royal Scottish Nursing Association was opened on Dec. 5th by Her Royal Highness Princess Louise, Duchess of Argyll, at 20, Torphichen-street, Edinburgh. This home, which is specially intended to meet the needs of gentlepeople of limited means, can accommodate 13 patients. Each patient has a separate room and only the fully trained nurses of the Royal Scottish Nursing Institution are employed. There is a very complete operating theatre with all the latest scientific equipment and no effort has been spared to make the interior of the home both pleasing and comfortable.

The Royal Victoria Hospital for Consumption, Edinburgh.

His Majesty the King has graciously been pleased to grant the title "Royal" to the Victoria Hospital for Consumption, Edinburgh.

Dec. 20th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

New Regulations of the Royal University of Ireland.

THE Royal University of Ireland has issued the following new regulations in reference to the final M.B. examinations:—

1. In the spring and again in the autumn of each year two separate examinations will be held simultaneously, one for pass candidates, only, the other for honour candidates only. When entering each candidate must state at which of these examinations he elects to be examined. A candidate who has entered for the honour examination may be allowed to change to the pass examination on giving to the secretaries a satisfactory reason for doing so at least one week before the commencement of the examination; but under no circumstances will a candidate who has entered for the pass examination be allowed to change to the honour examination.

2. Honour exhibitions will be awarded on the results of the honour examination only.

3. Candidates at the honour examination whose answering may not be such as to qualify them for honours may nevertheless be adjudged to have passed the examination provided they exhibit in their answers knowledge equivalent to what is required from candidates who satisfy the examiners at the pass examination.

The method of the examination for honours hitherto employed by the Royal University has been that the special examinations for honours have been held subsequently to the corresponding pass examinations. Those candidates only were allowed to be admitted to the honour M.B. examination who on a review of the results of their pass examination were considered by the examiners likely to prove themselves qualified to obtain honours and who were recommended to be admitted to the special examination, and honours and exhibitions were awarded on the aggregate of the honour marks and half the pass marks obtained in all the subjects that form part of the examination, and honours were awarded only on the subjects of the M.B. examination taken as a whole. In other words, as a result of the pass M.B. examination a few of the candidates who had shown special excellence were allowed to proceed to the honour examination which was held subsequently to the pass and was exactly of the same nature and covered the same subjects. At a meeting of the Belfast Medical Students' Association, held in the Union, Queen's College, Belfast, on Dec. 15th, a motion was carried disapproving of these new regulations and it was decided to communicate with the students of the other Irish medical schools affiliated with the Royal University asking their views so that perhaps an alternative scheme might be put forward.

Prevention of Tuberculosis.

The fourth annual meeting of the Dublin branch of the National Association for the Prevention of Tuberculosis was held on Dec. 14th at the Royal College of Physicians of Ireland, the Lord Mayor of Dublin occupying the chair. There was a large attendance. Dr. Alfred E. Boyd, honorary secretary, read the annual report which stated that:—

The total number of deaths caused by tuberculosis in its many forms in Ireland during 1903 was 12,180, representing a rate of 2·3 per 1000, whilst in 1902 the rate was 2·7. Of the 12,180 deaths, consumption was responsible for 9559, corresponding to a rate of 2·2 per 1000 of the population. Of these deaths 4667 were of males and 4892 were of females. Of the males who died from consumption during the year, 64 per cent., and of the females, 58 per cent., were between the ages of 20 and 45 years. During 1903 tuberculosis caused more than twice as many deaths as were caused by influenza, epidemic diarrhœa, whooping-cough, measles, typhoid, and diphtheria together. In the face of these figures the fact was deplored that the methods by which the death-rate from this cause is being lowered in other lands are still so imperfectly understood and adopted in Ireland.

Dr. W. J. Smyly, President of the Royal College of Physicians of Ireland, in proposing that the report be adopted, said that it was astonishing that the public did not take a greater interest in the prevention of tuberculosis, for those 12,180 people who died in 1903 were not old and feeble but generally in the prime of life. The Lord Mayor seconded the adoption of the report and stated that in reference to the appointment of a city bacteriologist the corporation was willing but the Local Government Board informed them that they had not the power at present. He felt sure that the corporation would endeavour to obtain those powers at the first opportunity. Mr. Thomas Edmundson, in proposing a motion in reference to making consumption a notifiable disease, said that it was lamentable to see the disease increasing in Ireland whilst in England and Scotland it was decreasing. He said that Sheffield should be complimented on getting Parliamentary sanction for compulsory notification. Professor E. J. McWeeney, in seconding the motion, said that in order to form a just idea of the evil which they wished to combat it was only necessary to consider the statistics of deaths in Dublin from other infectious diseases during the past year. Measles caused 32 deaths, scarlet fever 38, typhus fever eight, whooping-cough 128, diarrhœa and dysentery 128, small-pox 34, and consumption just 1000. The deaths due to other infectious diseases were mostly those of young children, whereas the majority of those who died from consumption had attained the reproductive age—the age of active citizenship.

The Condition of the Poor in Belfast.

At the present time, owing to the existence of distress due to depression of trade, attention is being specially directed in Belfast to the condition of the poor and several philanthropic schemes are being utilised as means of help. An inquest held on Dec. 14th as to the death of a woman who fell down the stairs in a house in Boyd-street has lifted the curtain and revealed a terrible state of affairs. It appeared that in the houses in this street there were no yards or back passages or any sanitary convenience whatever. Slops and filth of every kind were thrown out on the public street. A medical man who was examined said he did not think that any house in the street was properly fit for habitation. There was only one sleeping room in this particular house and two families of five persons altogether slept in it and there were no beds but simply what are called "shake-downs." The jury in a rider called the attention of the public authority to the condition of the houses in the street.

Dec. 20th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Action of Metallic Ferments on Metabolism, especially in Pneumonia.

AT the meeting of the Academy of Medicine held on Dec. 6th M. Albert Robin read a most interesting paper showing that metals in a state of infinite division have a

marked physiological action and that altogether dispro portionate to the quantity of the metal employed. M. Robin has studied the effect of these finely divided metals acting in the same manner as soluble ferments. The hypodermic injection of solutions which contain a few deci-milligrammes *(quelques dix millièmes de gramme)* of a metal such as palladium, gold, silver, or platinum has a marked effect. M. Robin noted an increase in the urea, of the coefficient of the utilisation of nitrogen, and of the uric acid. There were also noted á discharge of urinary indoxyl, an increase in the total quantity of oxygen utilised, with a corresponding lowering of the output of carbonic acid, an elevation of the respiratory coefficient and of the vascular tension, together with increased leucocytosis. From these observations M. Robin was enabled to draw conclusions as to the changes which albumin undergoes in the economy. Taking into consideration the chemical phenomena of the febrile crisis and those which are brought about by the injection of metals he considered that these metallic ferments could assist the defence of the organism against infections and more particularly that of pneumonia. Under the influence of these ferments the critical fall of temperature appears at an earlier date than usual, but the local pneumonic phenomena take place as usual while the polyuric crisis occurs later than usual. The ferments have no action upon the actual pneumonic lesion. In other infectious maladies the results are less marked.

Inoperable Recurrent Cancer of the Breast: Treatment by Radiotherapy.

At the meeting of the Society of Surgery which was held on Nov. 30th M. Lejars showed a patient on whom he had operated for the first time three years ago for cancer of the breast. Two years ago a second operation was performed for recurrence. Five months later the patient returned with a second recurrence and operation was this time considered out of the question. M. Lejars sent the patient to M. Béclère who employed x-ray radiotherapy with an unhoped-for result. After eight months of treatment the patient now shows no sign of cancer, the nodules have disappeared, the ulcers have healed, and the skin over the affected region is clean and supple. M. Béclère, who was present at the meeting, gave the society some figures of cases of cancer of the breast treated by radiotherapy. In all 44 cases were dealt with which could be divided into three categories. In 23 cases of recurrent inoperable cancer of the breast radiotherapy caused the nodules to disappear and the superficial ulcerations to heal but it had no effect upon the deep lesions and the affected glands and all the patients died sooner or later from cancer. The second class comprised 18 cases which had never been, and could not be, operated on. In these the results of the treatment were the same as in the previous class. Finally, three cases were treated in which the disease was quite recent but the treatment was as yet too recent for any definite deduction to be drawn.

Stall-keepers and the Hygiene of the Streets.

A matter of great interest to public health is much to the fore at present—namely, the question of foodstuffs sold from stalls in the streets. The Medical Society of the 16th Arrondissement of Paris is much concerned thereat. From the point of view of freedom of traffic there is every reason to ask that no stall for merchandise should be allowed on any footway which is less than two metres wide, and, moreover, from the point of view of public health, it should be made compulsory on the licence-holders—those at least who sell foodstuffs—to sweep the pavements where their stalls are placed very frequently, so that the asphalt may be cleansed from fragments of vegetables, meat, fat, or any other material of a greasy or putrescible nature. Another danger arises from the outside leaves of vegetables or skins of fruits causing passers-by to slip and to fall, for banana skins and the like are freely scattered on the pavement. The space underneath the stalls serves as a receptacle for every kind of rubbish which is not seen but which makes the asphalt dirty. Every evening, then, when the shops are shut the asphalt ought to be washed with plenty of water and scrubbed so as to remove all fatty or putrescible matter. Another point is that stalls for the sale of food-stuffs are generally dressed just at the time when the dung-boxes are being emptied into the dust-carts so that particles of manure are widely distributed through the air. Also at the same time carpets are beaten or shaken out of the windows, so that it is obvious that the food-stuffs run every chance of being covered with dust which may be full of pathogenic germs. The society has passed a resolution that the stall-holders should take fresh measures of precaution, that the hygienic condition of the streets should be carefully looked after, and that samples of food exposed for sale in the street, especially of fruits and vegetables which are meant to be eaten uncooked, should be examined from time to time in the municipal laboratory.

Boric Acid Poisoning.

Although symptoms of acute poisoning rarely follow the administration of a large dose of boric acid, it is nevertheless the fact that repeated doses of boric acid continued for several days may produce toxic effects. These effects usually appear at the end of the third or fourth day when the organism has become saturated with the substance whether by constant absorption, by non-elimination, or by imperfect elimination. M. Chevalier has stated to the Therapeutical Society that he has collected in medical literature 22 cases of poisoning certainly caused by this drug. The symptoms followed the use of boric acid either in the form of powder in dressings, or as a solution employed in enemata and in washing out the pleura, the stomach, or the bladder. Poisoning by boric acid which has been taken by the mouth is almost confined to cases of chronic poisoning by this substance. These have been investigated experimentally and it appears that in these circumstances boric acid shows but little toxic power, acts chiefly on the general nutrition, and requires much time for the production of really serious symptoms. The general conclusion is that boric acid is capable of producing dangerous pathological effects under certain conditions which are as yet imperfectly understood and that it ought not to be considered as a quite harmless substance. M. Chevalier added that boric acid was usually difficult of absorption, a property which accounted for its low degree of toxic power. On the other hand, it was under normal conditions easily eliminated in the urine and other excretions but if the power of elimination was defective it accumulated in the system.

Legal Responsibility of Surgeons.

The Chambre des Requêtes de la Cour de Cassation has recently decided that if after a child has been circumcised in his own interest *(dans son propre interêt)* he presents a slight deformity which might pass off naturally, the surgeon of the hospital department to which the relatives have taken the child is not responsible for the result, even though he may have erred in intrusting the operation to a person unqualified for such work. Neither is this substitute himself responsible, provided that the operation has been properly performed with all the precautions of modern surgery and provided that the ultimate mishap is of the class to which everyone is exposed who has to submit to the removal of a portion of the body.

Risks connected with the Certifying of Mental Cases.

Dr. Laurans, an elderly medical man who has for 40 years been practising in a working-class quarter of Paris, has recently had a very disagreeable experience in having to appear in a police-court on a charge of being accessory to an assault *(inculpation de complicité de violence)*. The complainant was a woman who had at the instance of her husband been placed under restraint as an uncontrollable lunatic on a medical certificate signed by Dr. Laurans. In reality the woman was a drunkard, had a very violent temper, and was in the habit of quarrelling and fighting with her husband who was a liquor seller and given to drink. After an unusually furious encounter the husband asked the commissary of police to put his wife under restraint as in his opinion she was out of her mind. The commissary replied that he could not do so unless she were certified by a medical man to be an uncontrollable lunatic. The husband then consulted Dr. Laurans, whom he had not previously known, although they both lived in the same neighbourhood. Dr. Laurans visited the patient and finding her to be a woman of fierce aspect, with staring eyes, uttering threats or unintelligible sounds in her drunken frenzy, did not hesitate to give the certificate which was asked for. The commissary then had the woman taken, in accordance with the usual practice with insane persons, to the infirmary of the prefecture of police. Here she was examined by Dr. Garnier, an alienist, who kept her in bed, gave her milk diet, and discharged her when the alcoholic excitement had passed off, as she was

found to be not really insane. Having returned home, the woman on the advice of her brother brought a charge against her husband of having caused her to be forcibly placed under restraint, a proceeding which the law describes as an assault (*violence*), and at the same time she charged Dr. Laurans with being an accomplice. Dr. Laurans therefore appeared in the police-court, where the woman's legal representative argued that he had given a certificate merely because he was asked to do so (*certificat de complaisance*), as his examination of her lasted only five minutes. The circumstances of the case have received much attention from the medical societies of Paris, for practically Dr. Laurans had done all that was required of him, as the state of violent and dangerous alcoholic delirium in which the woman was when he saw her was sufficiently evident not to require a long investigation. A quite similar mischance might happen to any medical man, and if Dr. Laurans were convicted no practitioner would consent to sign a certificate for the placing of a dangerous lunatic under restraint if he would thereby himself incur the risk of imprisonment. At the trial this argument was brought forward on behalf of Dr. Laurans who was fortunately acquitted. In the discussions which took place at the medical societies on the subject the general feeling was that in such circumstances it would be advisable for a practitioner to obtain the assistance and coöperation of another medical man. Only one medical man is required by law, but the presence of two would prevent the imputation that an opinion had been given inconsiderately or from a mere desire to oblige the person who asked for the certificate.

Dec. 20th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

The Army Medical Academy.

THE annual celebration of the foundation of the Army Medical Academy took place not long ago and presented an animated scene, the company including many professors of the University of Berlin and medical officers of high rank. According to the report given by the director of the academy and quoted by the daily press, the staff of the academy includes 44 army medical officers as teachers, assistants, and inspectors. The number of students is 312, and in addition to them there belong to the academy 158 Unterärzte, or students to whom a military rank has been already granted. The Unterärzte partly act as dressers or in other capacities in the Charité Hospital and partly are preparing for the State examination. The students attend the lectures of the medical faculty of the university in addition to special courses delivered to them within the academy. Post-graduate lectures for members of the army medical corps, especially those in provincial towns, were delivered in courses of four weeks' duration and were attended by 132 army medical officers. The academy is lavishly provided with laboratories and other means for scientific research and has a library of 62,000 volumes.

Professor Robert Koch.

On Dec. 11th a dinner was given to Professor Koch to celebrate the sixtieth anniversary of his birthday. A great many of his former assistants attended, including Professor Brieger, Professor Löffler, Professor Gärtner, and others. All the members of the Institution for Infectious Diseases were present. The Government was represented by the Under Secretary of State, Herr Wever, the army by General Staff Surgeon Dr. Leuthold and many other members of the army medical corps, and the medical faculty of the University of Berlin by Professor von Bergmann and others. Professor Koch's health was proposed by Professor Gaffky who eulogised the services which the guest of the evening had rendered to science and to the general welfare of humanity. In his reply Professor Koch said that the development of bacteriology and hygiene was very gratifying and he expressed his thanks to all his former and present assistants who had aided him in his work. On Dec. 20th he will leave Berlin where he has made only a short stay and will proceed to German East Africa for the purpose of studying cattle disease and other tropical epidemics. It is expected that he will be abroad for about six months.

Russian Surgeons and Japanese Critics.

In THE LANCET of July 23rd, p. 258, I gave a *résumé* of an article contributed to the *Deutsche Medicinische Wochenschrift* by Dr. Wada, fleet surgeon in the Japanese navy, on the treatment of the Russians wounded at the battle of Chemulpo. This article, in which the proceedings of certain Russian and French surgeons were rather severely criticised, has caused Dr. Banschtikoff, junior surgeon of the Russian cruiser *Variag*, to publish a reply in the same periodical. To illustrate the enormous difficulties which the surgeons had to overcome during and after the battle he gives an interesting description of the state of things on board the French cruiser *Pascal* to which the wounded had been conveyed from the *Variag*. Not less than 42 wounded sailors, of whom 23 had very grave injuries, and 41 unwounded men went on board the *Pascal*. Whilst the French and Russian surgeons were dressing the wounds and performing the necessary operations the whole crew of the *Korietz*, consisting of 166 men, were taken on board the *Pascal* because of the *Korietz* being abandoned. On the next day about 100 members of the Russian colony of the place with their servants, and finally the Imperial Russian mission from Seoul, found a shelter on the *Pascal*, so that this rather small vessel was overcrowded to excess. As the transhipment of the wounded had to be done very quickly there was no time to take fresh clothes and linen with them, so that in some of the more serious cases the French officers and men gave articles of their own clothing to the patients. In spite of the overcrowding the French were able to give sufficient food and wine to all the wounded. Three medical men, two Russians and one Frenchman, performed a number of operations on board the *Pascal* in circumstances of the greatest difficulty in a small room near the ship's hospital; seven operations (of which five had to be undertaken without anæsthesia on account of the bad state of the patients) were performed during the night of Feb. 9th and 19 other operations as well as numerous dressings during the following three days. Finally the stock of dressing material became nearly exhausted. Dr. Banschtikoff states that the wounds of entrance were of an irregular and not of a circular form, the surrounding tissue being greatly contused. In the majority of cases fragments of shell were found within the fractured bones together with pieces of dirty cloth. Apart from three amputations the operative measures consisted in disinfection of the wounds and removal of the fragments of shell and bone. The necrotic parts were eventually cauterised by the thermo-cautery and the wounds were plugged and covered with iodoform gauze. Finally moistened cotton-wool and caoutchouc tissue, and in cases of fracture splints of pasteboard, were applied. Dr. Banschtikoff remarks that although the French and Russian surgeons did their best the overcrowding on board the *Pascal* did not allow sufficient care to be given to the wounded. The offer of the Japanese authorities to convey the patients ashore to the Red Cross hospital was therefore received with great satisfaction. In that hospital they were treated by the Japanese with the utmost kindness and skill and the majority made a good recovery. At the same time he feels obliged to state that the first aid given to the men was of signal service to them and that the unfavourable conditions above described were inevitable. He contradicts a statement made by Dr. Wada to the effect that the Russian medical men were so perplexed at the beginning of the action that they had some difficulty in attending to the wounded and he declares the fact that nearly all the serious wounds were properly dressed while the action was proceeding, so that the surgeons from the war vessels of other nationalities who arrived immediately afterwards on board the Russian cruiser had to treat the slighter cases only.

Dec. 19th.

AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

Milk Supervision Bill, Victoria.

SOME months ago the Board of Health of Victoria prepared a Milk Supervision Bill. It was then considered by a conference of municipalities and agreed to. Since then the Minister of Health (who represents a country constituency where dairying is the principal industry) has had the Bill in hand and has so modified it as practically to nullify its action and, further, has taken no steps to introduce it into

the House. At the last meeting of the Board of Health it was resolved:—

That the Minister of Public Health be asked to meet a subcommittee of the board to go through the Milk Supervision Bill with a view to its immediate introduction into Parliament.

The matter has also been considered by some of the municipal councils who have resolved to call a conference of delegates and to urge the Minister to introduce the Bill as originally drafted and to get the Members of Parliament for their districts to ask the Minister for definite statements on the subject.

Proprietary Medicines.

Representatives of the Federal Chamber of Manufacturers recently waited on the Minister of Customs and presented a petition requesting him to prohibit the importation of articles which were deleterious to health because of false descriptions or because the packages containing drugs did not specifically set out on the labels that poisons entered into their composition. They quoted from a report recently prepared by a Royal Commission which stated that a large number of proprietary medicines, advertised and sold under deceptive names, contained poisons more or less virulent, as opium, nux vomica, ergot of rye, chloroform, aconite, arsenic, mercury, and bromides of sodium and potassium. The Minister replied that once goods were brought into Australia his department had no supervision over them. He assured the members of his entire sympathy and hoped that something would be done by the State governments to check the evil complained of.

Hospital Affairs.

The Queen Victoria Infectious Diseases Hospital at Melbourne became notorious for delays and mismanagement before it was opened. Now that after years of delay it has been opened the admission of patients appears to be hampered extraordinarily. Only a certain number of municipalities agreed to maintain and to control the hospital. Before a patient can be admitted an order must be obtained from the town clerk of the municipality in which the patient resides as well as a medical certificate that the case is one of either diphtheria or scarlet fever. The municipalities that refused to join in the maintenance of the hospital have to undertake to pay for cases residing in their districts. Recently a case of diphtheria occurred at Northcote, the municipality of which does not contribute, and the town clerk would not give an order. Consequently a day's delay occurred and the child died, leading to inquiry and discussion. Many cases are taken to the Melbourne Hospital first and to avoid delay in admission to the fever hospital its committee has recommended the town clerks of the municipalities to leave a number of signed orders with the superintendent of the Melbourne Hospital.—The new pavilions, known as the Queen Victoria pavilions, at the Royal Prince Alfred Hospital, Sydney, were formally opened with great ceremony by the governor of New South Wales on Oct. 20th. The original buildings were so designed as to allow of a gradual expansion, radiating from the central administrative block. It was opened in 1882 with 146 beds. In 1886 the number was increased to 161 and in 1887 to 224. In 1894 the beds were again increased to 236. By the addition of the Queen Victoria pavilions the total accommodation is raised to 456 beds, making the hospital the largest in the southern hemisphere. His Excellency also unveiled two statues on the pediments of the pavilions, one of the late Queen Victoria and one of the late Prince Consort.—At the Melbourne Hospital considerable discussion has taken place concerning contributions from patients. For some years it has been the custom to exact from patients whatever they can afford to contribute. It is alleged that this leads to preferential treatment and that timid patients would not attend because they were unable to contribute. The chairman stated that last year 3340 patients contributed nothing and no pauper patient was ever refused because of inability to contribute. The report of the finance committee recommending a continuance of the present system was adopted.—At the Women's Hospital, Melbourne, the committee and the medical staff have again come into conflict over the appointment of a resident medical officer. The committee requested a conference with the staff to discuss the qualifications of applicants for a vacant position. The staff replied by recommending one of the applicants and would not meet the committee. The staff claims the right of making the appointments to the resident staff.

Friendly Societies and Hospital Staffs.

At Armidale, New South Wales, a difficulty similar to the recent dispute at Balmain was threatened. Dr. Clune accepted the position of medical officer to certain benefit societies, pronounced by the New South Wales branch of the British Medical Association "inimical to the interests of the profession." Consequently no member of the branch could meet Dr. Clune. Dr. Clune applied for a position on the medical staff of the Armidale Hospital. The medical staff stated that they would resign if he was appointed. A motion that Dr. Clune should be appointed was rejected by the hospital committee by ten votes to eight. It was stated in the course of the discussion on the motion that the friendly societies would withdraw their financial support if Dr. Clune was not appointed.

Charge of Murder against a Medical Man: Acquittal.

Dr. W. O. Eichler of Sydney was tried for the murder of a girl by procuring criminal abortion, resulting in death from septic peritonitis. The dying depositions of the girl implicated the accused as the man who had performed the illegal operation. The judge said there was no corroborative evidence of the act having been committed by Dr. Eichler and the jury returned a verdict of "Not guilty."

Appointment of Medical Officer to the Water and Sewage Board, Sydney.

Dr. E. S. Stokes has been appointed medical officer and bacteriologist to the Metropolitan Board of Water-supply and Sewage, Sydney. Dr. Stokes is a graduate of the University of Sydney. In 1891 he obtained the degrees of Bachelor of Medicine and Master of Surgery and has held the position of resident medical officer at both Sydney and Prince Alfred Hospitals. He obtained the Diploma of Public Health of the Royal Colleges of Physicians and Surgeons of Ireland, passing the examination with honours.

Nov. 14th.

Obituary.

DAN ASTLEY GRESSWELL, M.D. OXON., M.D. MELB., D.P.H. CANTAB.,

CHAIRMAN OF THE BOARD OF PUBLIC HEALTH, VICTORIA, AUSTRALIA.

Dr. D. Astley Gresswell, who died in Melbourne on Dec. 10th, had for many years occupied a prominent position among the medical profession in that city. He was a native of Louth in Lincolnshire, where he was born on Sept. 11th, 1853, being the second son of the late Alderman D. Gresswell, at one time mayor of the town. Dr. Gresswell's professional education was received at the University of Oxford and St. Bartholomew's Hospital. At Oxford he held an open scholarship at Christ Church; he was essentially a reading man but was nevertheless proficient in some forms of athletics, especially in sculling. In 1881 he graduated as M.B. and in 1889 as M.D.; in 1881 he also took the diploma of M.R.C.S. Eng. and in 1884 that of D.P.H. Cantab. At St. Bartholomew's Hospital he held the appointments of house physician and assistant demonstrator of physiology. His subsequent work was chiefly concerned with the subject of infectious diseases and preventive medicine. He was a careful and unwearied observer of all advances made in our knowledge of this diversified field and from his wide general culture no less than from his sound knowledge of medicine he was well fitted to form a judgment on debated questions. In the infectious hospitals of the Metropolitan Asylums Board he had abundant opportunities for independent work and practical observation, opportunities which he conscientiously utilised. About 1883 he was for a time on the medical staff of the Board's South-Western Hospital at Stockwell. On leaving there he obtained an appointment in the emigration service which required him to proceed to Australia in a sailing ship and while on this voyage he did work in connexion with which he received assistance from the scientific grants committee of the British Medical Association; this consisted in the collection of observations and material for an article ten pages in length published in the *British Medical Journal* of July 26th, 1884, under the title of "Report on Some Organic Phenomena in their Relation to Changes of Environment observed during a Voyage round the World in a Sailing Ship." On his return to England he was one of several temporary medical inspectors appointed by the Local Government Board to visit various home seaports and to suggest measures for dealing with cases

of cholera which might be brought from foreign ports where it was known to exist. He afterwards investigated local outbreaks of disease and pointed out that a convalescent from diphtheria might continue to be a source of infection for a much longer period than was generally recognised. One of his reports is noticed in THE LANCET of Oct. 19th, 1889, p. 819. In 1887 he again joined the medical staff of the Stockwell Hospital, induced mainly by the prospect of collecting material for his M.D. thesis which was entitled "A Contribution to the Natural History of Scarlatina." The thesis was considered to be of sufficient merit to be published by the University in book form and it was reviewed in THE LANCET of Feb. 28th, 1891, p. 491. His intimate knowledge of sanitary work and preventive medicine having obtained for him an appointment in connexion with the Board of Public Health of the colony of Victoria he left England in 1890 and thenceforward made his home in Melbourne. Dr. Gresswell has three younger brothers in the medical profession. In 1883 he married Miss Agnes Neill who survives him.

Medical News.

UNIVERSITY OF OXFORD.—In a Congregation held on Dec. 17th, the last day of Michaelmas term, presided over by the Vice-Chancellor (Dr. Merry, Rector of Lincoln College), the following degrees were conferred:—

M.D.—H. P. Cholmeley and E. Mallam, Magdalen.
M.B. and B.Ch.—E. Burstal, Trinity; R. A. Chisolm, Wadham; and H. R. Dean, Magdalen.
D.Sc.—T. C. Porter, Exeter; and H. B. Baker, Christ Church.

At examinations held recently the following candidates passed in the subjects indicated:—

FIRST M.B. EXAMINATION.

Organic Chemistry.—P. P. W. Andrews and T. B. Batchelor, University College; A. W. Burnyeat, Queen's; D. C. Dobell, Christ Church; H. J. B. Fry, Magdalen; C. Gouldesborough, Christ Church; H. P. Newsholme, Balliol; J. A. Noble, Queen's; R. W. M. Phillips, Jesus; J. Wallace, Exeter; and T. S. Wright, Brasenose.
Human Anatomy and Human Physiology.—M. B. Baines, Exeter; R. Evans, Jesus; F. Howson, non-collegiate; G. H. Hunt, Christ Church; and W. W. Wells, Merton.

SECOND M.B. EXAMINATION.

Pathology.—L. T. Barra, University College; R. A. Chisolm, Wadham; T. Harris, non-collegiate; R. Jamison, Trinity; L. J. J. Orpen, Keble; J. E. Rutherford, Corpus Christi; H. C. G. Semon, Magdalen; C. A. Smallhorn, Wadham; B. H. Spilsbury, Magdalen; H. L. Tidy, New; and E. H. White, University College.

FINAL EXAMINATION.

Medicine, Surgery, and Midwifery.—A. W. Brodribb, University College; E. Burstal, Trinity; R. A. Chisolm, Wadham; H. R. Dean, Magdalen; H. Frankish, Worcester; J. Freeman, University College; A. H. Hogarth, and R. H. Sankey, Christ Church; C. J. Singer, Magdalen; E. McL. Smith, Queen's; P. F. Tiane, Magdalen; and J. A. Vlasto, New.

UNIVERSITY OF CAMBRIDGE.—At examinations for medical and surgical degrees held in Michaelmas term the following satisfied the examiners:—

FIRST EXAMINATION.

Part I., Chemistry and Physics.—W. A. Anderson, Clare; W. Bevs-Stones, Caius; W. T. Chaning-Pearce, Emmanuel; W. N. Child, B.A., Christ's; H. C. Davis, Clare; M. E. Dellschaft, Jesus; E. V. de Souza, Downing; C. A. Dottridge, Clare; A. W. Gaye and A. H. Gosse, Caius; H. G. Greaves, Emmanuel; C. C. Harrison, Caius; J. Harrison, R. Heaton, and G. C. Kidd, Christ's; N. F. Lock, Caius; C. H. Maxwell, Christ's; C. C. Messiter, Caius; B. L. Miles, Pembroke; G. R. Mines, Sidney Sussex; C. G. H. Moore, Caius; A. F. Morcom, Clare; J. D. Morgan, B.A., Trinity; C. G. H. Morse and N. Mutch, Emmanuel; J. H. Newmarch, Pembroke; H. B. Richmond, King's; A. Sandison, Trinity; F. D. Saner, Christ's; F. P. Saunders, Clare; A. S. Seabrooke, Christ's; J. E. S. Sheppard-Jones, Magdalene; W. Shipton, Emmanuel; H. C. Snell, B.A., Caius; R. C. Staples-Browne, B.A., Emmanuel; A. W. Stott, Trinity; W. W. C. Topley, St. John's; J. van Schalkwijk, Caius; L. C. Walker, Christ's; J. M. Wallace and M. H. Whiting, Downing; and H. F. Wilson, Christ's.

THIRD EXAMINATION.

Part I., Pharmacology and General Pathology.—P. H. Bahr, B.A., Trinity; J. Barcroft, M.A., King's; J. W. B. Bean, B.A., H. Selwyn; E. Beaton, B.A., Caius; G. G. Butler, B.A., Emmanuel; R. N. Chopra, Downing; H. N. Coleman, B.A., Christ's; L. Courtauld, B.A., Trinity; F. D. Crew, B.A., Emmanuel; A. J. W. Cunningham, B.A., Trinity; A. W. C. Drake, B.A., Pembroke; J. R. Draper, B.A., St. John's; E. G. Fearnsides, Trinity Hall; W. J. Fison, Sidney Sussex; G. B. Fleming, B.A., King's; C. F. Fothergill, B.A., Emmanuel; F. Gayner, B.A., King's; B. C. Ghosh, M.A., St. John's; C. W. Greene, B.A., Emmanuel; J. W. Grice, B.A., King's; J. M. Hamill, B.A., and G. A. F. Heyworth, B.A., Trinity; W. D. Hopkins, B.A., Trinity Hall; A. F. Jackson, Peterhouse; A. R. Jordan, B.A., Clare; H. E. Kitchen, B.A., Sidney Sussex; C. N. le Brocq, B.A., Pembroke; R. B. Lloyd, B.A., Emmanuel; T. C. Lucas, B.A., Clare; S. G. Luker, B.A., Pembroke; R. G. Markham, B.A., Caius; C. D. Mathias, B.A., Trinity; A. W. Moore, B.A., Emmanuel; E. V. Oulton, B.A., Christ's; John H. Pratt, B.A., Trinity; R. Puttock, B.A., and A. C. H. Rothera, B.A., Emmanuel; C. E. F. Salt, B.A., Pembroke; R. B. S. Sewell, B.A., Christ's; A. L. Singer, B.A., King's; P. J. Verrall, Trinity; K. M. Walker, B.A., Caius; E. G. Wheat, M.A., Christ's; A. B. Wilson, B.A., Pembroke; F. L. Woods, B.A., Caius; and R. F. Young, B.A., Christ's.

TRINITY COLLEGE, DUBLIN.—At the final examination in surgery in Michaelmas term the following were successful:—

Eva J. Jellett, Hugh Stewart, William Hassard, Thomas Creaser, Robertson S. Smyth, John Cunningham, Richard Kelly, Arthur A. M'Neight, Charles E. Fawcett, Thomas J. T. Wilmot, Thomas Wilson, Gerrard A. Crowley, Keith R. C. Hallowes, and William J. M'Ivor.

PLYMOUTH BOARD OF GUARDIANS.—At a meeting of the Plymouth board of guardians held on Nov. 23rd it was decided that a new infirmary should be erected on the site occupied by the garden adjoining the workhouse.

BRISTOL MEDICAL MISSION.—The annual meeting of the friends of the Bristol Medical Mission was held on Nov. 24th. The medical report stated that during the past 12 months 8000 patients had been treated at the dispensary, including 1640 who had been attended at their own homes. The financial statement was satisfactory.

REMUNERATION OF POOR-LAW MEDICAL OFFICERS.—At a meeting of the Falmouth board of guardians held on Nov. 24th it was decided to increase the salary of Mr. C. C. Bullmore from £28 to £40 per annum. Mr. Bullmore stated that during the ten months he had been district medical officer he had paid 200 visits and dispensed 1400 bottles of medicine, which at 6*d.* a bottle would cost more than the amount of the salary which he was receiving.

DONATIONS AND BEQUESTS.—By the will of Mrs. Isabella Lucy Bishop £1000 are bequeathed to the Edinburgh Medical Missionary Society; £500 to St. Mary's Hospital, Paddington; £500 to the Zenana Bible and Medical Mission; to the Church Missionary Society £1500, £1000 of which are to be invested and the income applied towards the permanent endowment of the John Bishop Memorial Hospital at Kashmir, India, while the income from the remaining £500 is to be applied in aid of the permanent endowment of the Medical Missionary Hospital at Hung-Chow, China; to the Edinburgh Medical Missionary Society a further sum of £800, to be applied in founding and endowing a bursary to be called "The John Bishop Bursary," to be competed for annually by students of the society; to the China Inland Mission £500, the income to be applied in aid of the permanent endowment of the Henrietta Bird Memorial Hospital, Pooning-fu, China; and £500 to the United Free Church of Scotland, the income to be applied in aid of the permanent endowment of the Medical Mission Hospital at Mukden, Manchuria.

THE BONA FIDES OF ADVERTISEMENT CHALLENGED IN THE LAW COURT.—What an admirable institution would be in this country a special tribunal to settle questions raised as to the truthfulness of the statements appearing in advertisements. Such a tribunal evidently exists in Germany, according to the following case. It appears that during the course of the past year Jeyes' Sanitary Compounds Company has been advertising in certain German newspapers that creolin sold by Mr. William Pearson was not of its manufacture and that the fluid which it now makes (cyllin) is four times the strength of that which it formerly sent to Germany as "creolin," while it was free from carbolic acid. In consequence of these statements Mr. Pearson took action against Messrs. Jeyes in the district court of Hamburg on the grounds of unfair competition. The court referred the matter to the Hygienic Institute of the city, the questions submitted being: (*a*) Whether the defendants have succeeded, by means of experiments extending over many years, in quadrupling the bacteria-destroying properties of the fluid in question; and (*b*) whether cyllin is 11 times stronger than pure carbolic acid. Dr. Kister of the Hygienic Institute was deputed to examine a series of samples and submitted an exhaustive report embodying tables showing the results of bacteriological experiments with "cyllin," "creolin," "Jeyes' perfect purifier," "Jeyes' fluid," and carbolic acid, by British and German methods, typhoid culture being used. He answered questions (*a*) and (*b*) in the affirmative. The

district judge and two commercial judges have recently given their decision in the case. They dismissed the plaintiff's claim and ordered him to pay five-sixths of the costs. In their grounds for the judgment the judges relied upon Dr. Kister's report, which was in favour of the defendants, and they rejected the plaintiff's allegations that the defendants had added poisonous mixture to "cyllin."

BOOKS, ETC., RECEIVED.

JOHN BALE, SONS, AND DANIELSSON, LIMITED, 83, Great Titchfield-street, Oxford-street, W.

Bale's Dental Surgeon's Daily Diary and Appointment Book. 1905. Price 7s.

The Channels of Infection in Tuberculosis, together with the Conditions, original or acquired, which render the different Tissues Vulnerable. Being the Weber-Parkes' Prize Essay, 1903. By Hugh Walsham, M.A., M.D. Cantab., F.R.C.P., Physician to Out-patients, formerly Pathologist, to the City of London Hospital for Diseases of the Chest, Chief Assistant in the Electrical Department of St. Bartholomew's Hospital. Price 12s. 6d. net.

KIMPTON, HENRY, 13, Furnival-street, Holborn, E.C.

A Practical Treatise on Genito-Urinary and Venereal Diseases and Syphilis. By Robert W. Taylor, A.M., M.D., Clinical Professor of Genito-Urinary Diseases at the College of Physicians and Surgeons (Colombia University), New York. Third edition, thoroughly revised. Price 28s. net.

The Principles and Practice of Gynecology. For Students and Practitioners. By E. C. Dudley, A.M., M.D., President of the American Gynecological Society; Professor of Gynecology, North-Western University Medical School. Fourth edition, revised. Price 25s. net.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

BORN, EDWARD TURNER, M.B. Dunelm, J.P., has been promoted from Assistant Colonial Surgeon, Fox Bay, West Falklands, to the Hon. the Colonial Surgeon, Stanley, East Falklands, President Board of Health, and Member Executive and Legislative Councils.

ENGLISH, T. CRISP, B.S. Lond., F.R.C.S. Eng., has been appointed Assistant Surgeon to St. George's Hospital and Lecturer on Operative Surgery, St. George's Hospital Medical School.

HILL, J., L.R.C.P. & S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Miltown-Malbay District of the County of Clare.

HUNTER, JESSIE SOPHIA BEATRIX, M.B., Ch.B. Glasg., has been appointed Junior Assistant Medical Officer to the Bracebridge District Asylum, Lincoln.

JOHNSON, R. G., M.B. Lond., has been appointed Certifying Surgeon under the Factory Act for the Poole District of the county of Dorset.

LEGGE, S. C., M.R.C.S., L.R.C.P. Lond., has been appointed Medical Officer of the Workhouse and Cottage Homes, Worcester.

LUFF, A. P., M.D. Lond., has been appointed Physician to the Inpatients at St. Mary's Hospital.

LUKE, THOMAS D., M.B., F.R.C.S. Edin., has been appointed Lecturer on the Practice of Anæsthetics at Edinburgh University.

MATHEWS, T. G., M.D. Edin., has been appointed Certifying Surgeon under the Factory Act for the Kirkby Lonsdale District of the county of Westmoreland.

SAMUEL, GRIFFITH K., has been appointed Resident Medical Officer to the Cardiff Infirmary.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, 68, Victoria-street, London, S.W.—Examination of candidates for not less than 25 commissions in the Royal Army Medical Corps.

BIRMINGHAM, QUEEN'S HOSPITAL—Honorary Ophthalmic Surgeon.

BLACKBURN AND EAST LANCASHIRE INFIRMARY.—Junior House Surgeon. Salary £70 per annum, with board, washing, &c.

BOWDEN, CHESHIRE, MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Resident Medical Officer. Salary £100 per annum, with board, apartments, and washing.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Resident Medical Officer, unmarried. Salary £80 per annum.

CLAYTON HOSPITAL AND WAKEFIELD GENERAL DISPENSARY.—Senior House Surgeon, also Junior House Surgeon, both unmarried. Salary of the former £120 and of the latter £80 per annum, with board, lodging, and washing.

DEWSBURY AND DISTRICT GENERAL INFIRMARY.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

DORCHESTER, DORSET COUNTY HOSPITAL.—House Surgeon, unmarried. Salary £100, with board and residence.

EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—Dental Surgeon.

EDINBURGH UNIVERSITY.—Examinerships in (1) Public Health Laboratory Work; (2) Botany; (3) Chemistry; (4) Anatomy, including Arthropology; (5) Pathology; (6) Practice of Medicine; (7) Midwifery; (8) Forensic Medicine; and (9) Public Health (Medical Degrees Examination) and Sanitation, Sanitary Law, and Vital Statistics (Science Degree Examination).

FARRINGDON GENERAL DISPENSARY AND LYING-IN CHARITY, 17, Bartlett's Buildings, Holborn-circus, E.C.—Honorary Dental Surgeon.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, W.C.—Assistant Resident Medical Officer, unmarried. Honorarium £40, with board.

GLOUCESTER GENERAL INFIRMARY AND THE GLOUCESTERSHIRE EYE INSTITUTION.—Assistant House Surgeon for six months. Salary at rate of £30 per annum, with board, residence, and washing.

GROCERS' COMPANY'S SCHOLARSHIPS.—Two Scholarships for Sanitary Science, value £300 a year, with allowance, tenable for two years.

HANLEY, STOKE, FENTON, AND LONGTON JOINT HOSPITAL BOARD.—Resident (Lady) Assistant Medical Officer. Salary £100 per annum, with apartments, board, washing, and attendance.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton.—Resident House Physicians for six months. Honorarium of £25.

KING EDWARD VII. SANATORIUM.—Medical Superintendent. Salary £500 per annum, rising to £600, with board, lodging, and attendance.

LEEDS, UNIVERSITY OF, SCHOOL OF MEDICINE.—Lecturer in Pharmacology, Therapeutics, and Materia Medica.

LINCOLN, HOSPITAL FOR THE INSANE.—Assistant Medical Officer. Salary £100.

LONDON COUNTY ASYLUM, Banstead, Sutton, Surrey.—Junior Assistant Medical Officer. Salary £150 per annum, with board, apartments, and washing.

LONDON SCHOOL OF TROPICAL MEDICINE, Royal Albert Dock, London, E.—Teachers of Protozoology and Teachers of Helminthology. Salary £250, rising to £500 per annum, with luncheon and tea.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, Queen-square.—Director of Neuro-Pathological Research. Salary £250 per annum.

NEW ZEALAND, UNIVERSITY OF OTAGO.—Professor of Physiology. Salary £600, with fees.

NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, Bethnal-green, E.—House Surgeon for six months. Salary at rate of £60 per annum, with board, residence, and laundry.

PLYMOUTH, SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Honorary Medical and Surgical Staff.

ROYAL EYE HOSPITAL OR ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL, Southwark.—Refraction Assistant. Honorarium £40.

ST. BARTHOLOMEW'S HOSPITAL.—Clerk of the Hospital. Salary £800 per annum, with residence.

ST. PANCRAS, London.—Medical Superintendent of the South Infirmary and Medical Officer of the Workhouse. Salary as former £250 per annum, rising to £350, with apartments, coals, and lighting; and as latter £100 per annum.

SCARBOROUGH, BOROUGH OF.—Medical Officer of Health. Salary £350 per annum, rising to £400.

SHEFFIELD, ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £70 per annum, with board, lodging, and washing.

SOUTHAMPTON, ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Honorary Assistant Physician.

STOKE-UPON-TRENT, NORTH STAFFORDSHIRE INFIRMARY AND EYE HOSPITAL, Hartshill.—House Surgeon. Salary £110 per annum, with apartments, board, and washing.

UNIVERSITY COLLEGE, LONDON.—Surgical Registrar at University College Hospital.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon for six months. Salary at rate of £75 per annum, with board and residence.

THE Chief Inspector of Factories, Home Office, S.W., gives notice of vacancies as Certifying Surgeons under the Factory Act at Maryhill (Glasgow), in the county of Lanark; and at Ashbourne, in the county of Derby.

Births, Marriages, and Deaths.

BIRTHS.

CAMPBELL.—On Dec. 16th, at North-street, Elgin, the wife of Donald Graham Campbell, M.B., C.M. Edin., of a son.

DARDEL.—On December 12th, at Aix-les-Bains, Savoy, France, the wife of Jean Dardel, M.D., of a daughter.

EASTON.—On Dec. 15th, at Brigstock-road, Thornton-heath, the wife of Harold Augustus Easton, M.R.C.S., L.R.C.P., of a son.

JOHNSON.—On Dec. 12th, at Ashton House, Liscard, Cheshire, the wife of Alfred Johnson, M.R.C.S., L.R.C.P., of a daughter.

MARRIAGE.

FOXCROFT—COCKBAIN.—On December 15th, at Christ Church, Sefton Park, Liverpool, by the Rev. Canon Irving, Frederick Walter Foxcroft, M.D., C.M., Birmingham, younger son of the late Joseph Foxcroft, Cheetham Hill, Manchester, to Mary Lydia, daughter of the late Thomas Cockbain, Liverpool and Valparaiso.

DEATHS.

HILL.—On Sunday, the 11th inst., at 2, Bedford-square, London, Hannah, the loving and beloved wife of J. Higham Hill, M.D.

YOUNG.—On Dec. 14th, William Mussen Young, M.D., of 3, Pembridge-road, Notting Hill-gate, London, eldest son of the late Samuel Young, of Lisburn, co. Antrim.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

SCHOOL CHILDREN AND BOOTS.

A CORRESPONDENT writes to us as follows:—

> I have been thinking lately of the grave danger children of the poorer classes run by going to school and sitting in wet boots in bad weather. Cannot something be done to remedy such a state of things—either all children forced to wear goloshes, or even institute the inconvenient ceremony of changing boots on arrival? Am I not right in saying that sitting in a warm room in damp boots is recognised to be such a dangerous proceeding that no child of the richer classes is allowed to be exposed to the risk?

Our correspondent is right in his facts but the remedy is difficult unless some class is prepared to spend a large sum of money. Goloshes are out of the question. They would never be at hand when wanted and, further, a golosh necessarily fits the boot and not the foot. Children of the class to which our correspondent refers generally wear boots which are much too big for them or even odd boots, one of which is much smaller than the other. Another alternative is that every child should have a pair of slippers to wear on arrival at the school and the change should be made every day as a matter of routine or else the slippers would never be forthcoming when wanted. But the solution of the problem is by no means easy. Our contemporary the *Evening News* has started a fund for providing the poor school children of London with boots and is collecting subscriptions for this object with great zeal. Three shillings sent to the editor at Tallis-street, London, E.C., will provide a pair of boots for some luckless child and we can think of no more practical form for Christmas charity to take.

OVERCROWDED TRAINS.

To the Editors of THE LANCET.

SIRS,—Your remarks in THE LANCET of Dec. 17th recall an experience of my own some six weeks ago. I was very indignant at the time but for obvious reasons (loss of time and expense being the chief) did not volunteer evidence before the Board of Trade. I was returning with my wife about 6 P.M. after paying some calls in town and entered a train at the Temple (on the Whitechapel and Bow Railway). We took first-class tickets and entered an empty first-class carriage. By the time we had got to Whitechapel 23 people were in the carriage and I am fairly certain that my wife and myself were the only ones who had first-class tickets. We tried to get out at Bow but could not. We managed to struggle out at Bromley. My wife's dress was torn and her feet trampled on and she was physically sick after we got out. I had a racking headache. At the barrier excess was demanded for the journey between Bow and Bromley. I refused to pay and gave my name and address after using some strong language to the ticket collector. I have not yet heard from the company.

I am, Sirs, yours faithfully,

Bow, E., Dec. 17th, 1904. EAST LONDON PRACTITIONER.

RHEUMATIC NODULES IN 1520.

IN the collection of pictures left by Signor Morelli to the Academy of Bergamo is a splendid portrait of a lady by Paolo Morando, otherwise known as Cavazzuola, a Veronese painter who lived from 1486 to 1522. There is an excellent reproduction of this in the *Connoisseur*, vol. iv., No. 15, November, 1902. The lady appears from her face to be aged about 30 years but the hands attract the attention at once as being much older. The left hand is in strong light in a central position; the abductor indicis and other interossei are strikingly wasted, the interphalangeal joints of the first two fingers are markedly enlarged, and there are typical rheumatic nodules over the head of the second phalanx of the index and over the proximal ends of both the proximal phalanges of the middle finger. This is surely the earliest record of rheumatic nodules.

PHYSICAL CULTURE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of Dec. 17th, p. 1764, I find a paragraph headed "Physical Culture" impugning my action in writing an article on the question of scientific systematic exercise as a curative agent in certain ailments and particularly mentioning the Sandow treatment. In deference to the desire of the ethical committee of the British Medical Association I have now requested that the article shall not be used in the advertisement of the treatment; at the same time I feel that having inserted the above-mentioned paragraph a few words on my side of the question are necessary. I could quite understand the deprecatory criticism if I had written advocating some cure-all patent concoction or some faith-healer or bone-setter, treating one and all who applied to him without discrimination. The tone of your writer's paragraph shows that he is acquainted with the value of curative physical culture. He, however, makes a most extraordinary suggestion, that a practitioner should accompany and "superintend exercises." May I ask your readers, the majority of whom I take to be registered practitioners, a question? How many medical men would claim to be capable of "superintending the exercises of a patient for the prevention of the return of a hernia" or for that matter any curative exercises? I for one could not claim the ability. Following your writer's advice, to be logical, the learned and much revered consultants who advise their wealthy sufferers from overfeeding and insufficient exercise to go in for riding should themselves accompany and superintend their patients' trots, canters, and gallops.

Now, as was rightly stated, physical culture is at the moment almost a craze, then how doubly necessary is it that the profession should point the public to satisfactory sources of direction. The Sandow treatment to my own knowledge is most cautiously applied and with results so uniformly successful as to be surprising. I have seen cases (sent to Eugen Sandow, by the way, by leaders of our profession, some of whom have received titles in recognition of their medical achievements, who yet did not feel it incumbent to take the patients and superintend the exercises) entirely cured where a long course of drug treatment had quite failed to produce the least improvement.

Your own writer points out that Sandow is on quite a different footing from others who "run" physical culture. He and your readers are perhaps unaware of the care which is used only to apply the Sandow exercise treatment to suitable cases. Before commencing treatment in doubtful cases a doctor is consulted and frequently persons under treatment are advised by Eugen Sandow to show their exercise prescriptions to their medical adviser for his approval or suggestions.

Knowing these and many other points which I will not encroach upon your space to include I feel perfectly justified in writing the article in question. In so doing I may have exceeded what the etiquette of the profession approves but have certainly not erred against the paramount object of our profession—i.e., the doing the greatest possible amount of good for those who suffer—in making more widely known the form of treatment.

I am, Sirs, yours faithfully,

Dec. 20th, 1904. ROBERT BESWICK, M.R.C.S. Eng., L.S.A.

TUBERCULOSIS AND INFECTION.

A CORRESPONDENT who signs himself "Sanitas" writes to us on the following matter. He is acquainted with a hospital for the treatment of pulmonary consumption to which there is attached a chapel. To the services held in this chapel on Sunday afternoons the inhabitants of the neighbourhood are invited. Also at times the local choral society gives entertainments in the dining hall of the hospital and these entertainments are attended by the patients and by visitors from outside. "Sanitas" wishes to know whether, in our opinion, there is not a risk of infection from the patients to the visitors or the entertainers. We cannot, of course, definitely affirm that there is no risk but it is infinitely small and much less probably than exists in any ordinary church, concert room, or other place where people congregate. Probably the patients are fully instructed in the use of spittoons and the infective qualities of their sputum and do not cough promiscuously, as is the case with a tuberculous patient at large who has not realised the seriousness of his condition. Concerts have been held for many years past at the Brompton Hospital for Consumption at which the entertainers come from outside as does a proportion of the audience. No cases of infection have arisen from this custom, so far as we know. Nor do we think that attendance at an afternoon service at which both tuberculous and non-tuberculous worshippers assist is likely in the circumstances to give rise to infection.

THE BUILDING AND MANAGEMENT OF A SMALL LUNATIC ASYLUM.

To the Editors of THE LANCET.

SIRS,—Can any of your readers tell me of a useful book detailing all the duties of a medical officer in the management of a small lunatic asylum? Also I want to know the cost of building and maintaining an asylum for not less than 60 inmates and to see plans and specifications for such a small institution.

I am, Sirs, yours faithfully,

Dec. 20th, 1904. W. D.

F.R.C.S.—The article in question is, of course, a disguised, and a very thinly disguised, advertisement. Abuse of the tactics of the paper publishing such a discreditable thing would be of no good in THE LANCET, for the public would not see our words or would regard our attitude as an interested one.

Anti-trash.—We believe that there is some foundation for our correspondent's denunciations but we also believe that he would find it possible to deal with tradesmen by whom his orders would be properly executed.

Graduate will find that the question which he has raised was discussed in THE LANCET of Nov. 19th, 1904.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Dec. 22nd, 1904.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind	Rainfall.	Solar Radiation in Vacuo.	Maximum Temp. in Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Dec. 16	29·82	S.W.	0·02	67	56	41	53	54	Overcast
,, 17	30·16	S.W.	...	62	57	54	52	54	Cloudy
,, 18	30·29	W.	...	55	52	51	50	51	Cloudy
,, 19	30·60	E.	0·03	42	42	37	39	39	Foggy
,, 20	30·51	S.E.	...	48	41	35	36	36	Foggy
,, 21	30·43	S.E.	...	39	39	34	35	35	Foggy
,, 22	30·40	S.E.	...	36	36	34	35	35	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (26th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (27th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (28th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (29th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (30th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9. 30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (31st).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Rye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

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Z.—Messrs. A. and M. Zimmermann, Lond.

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